AVICULTURAL MAGAZINE

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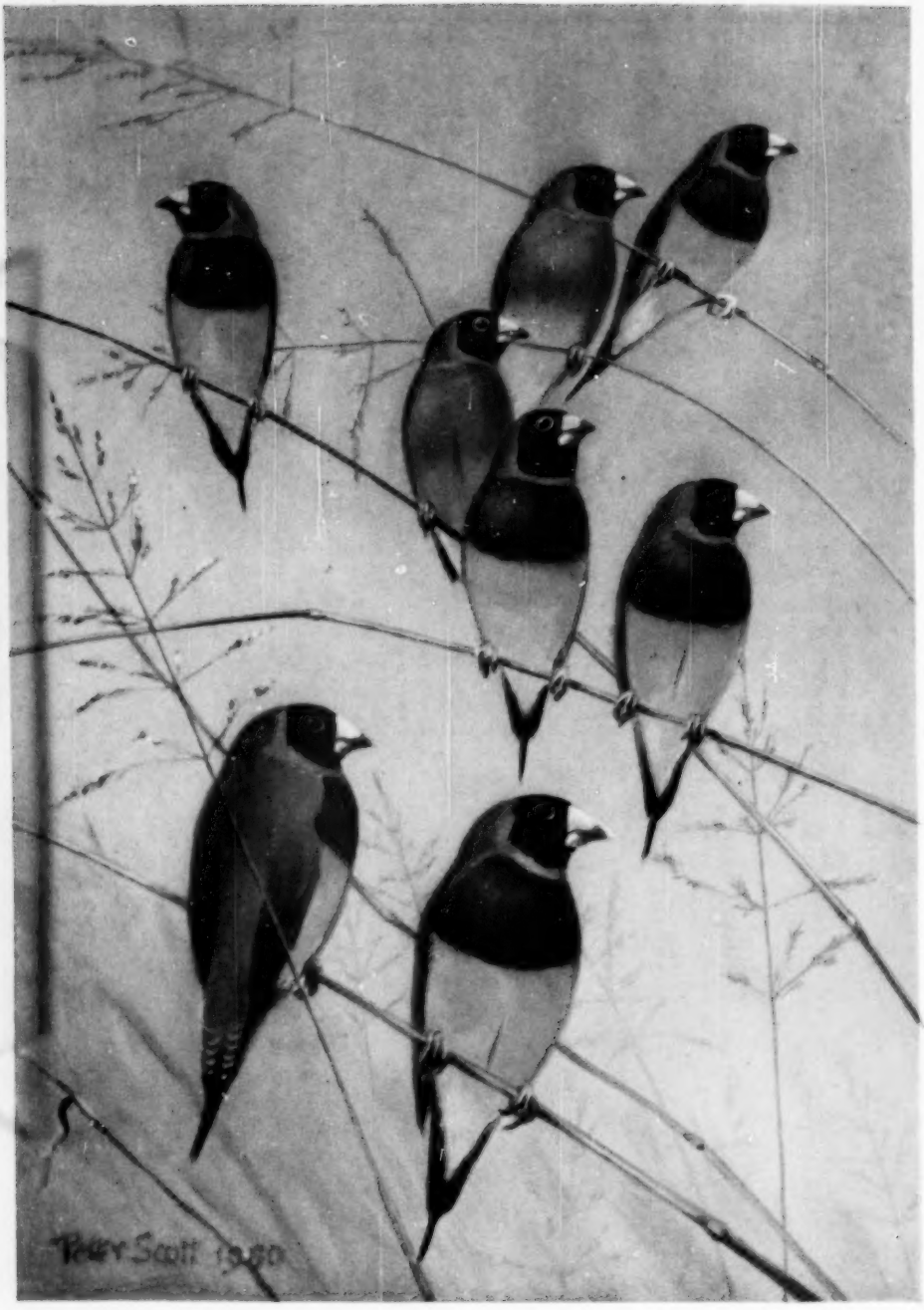

Gouldian Finches.

AVICULTURAL MAGAZINE

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GOULDIAN FINCHES

(*Pæphila gouldiæ*)

By P. W. TEAGUE

Looking back over the years one is often surprised to find where one's hesitating and adventurous first steps have led. We are sometimes cautioned about the first wrong turning which resulted in a career of crime, or we have been encouraged by tales of the first successful deal that led to fame and fortune. I little thought when I started keeping Gouldian Finches twenty-five years ago that I should become expert enough to write a leading article illustrated by a famous artist like Peter Scott.

I possessed a fair knowledge of bird keeping (my life-long hobby), and decided to attempt to breed the Gouldian Finch in spite of discouraging remarks from many aviculturists who had failed to breed or keep these birds for any length of time. After reading all the records I could find my task looked formidable, but in 1925 I purchased two pairs, one pair of blackheads and one pair of redheads. By a great stroke of fortune—and I repeat that, for not all Gouldians will breed—both pairs nested. One pair, in an ordinary canary breeding cage, reared six young, and the other pair, in a small aviary, reared four young. These laid the foundations of my stud of Gouldians, for now I had sufficient birds to experiment with to find out just what feeding and aviaries suited them best.

My feeding methods were fully described in our Magazine for May, 1932, and again added to in the 1936 July issue, in which I gave full details of the Iodized Mineral Salts I used, and am still using, with good effect. The last war brought about radical changes, for most feeding items used up to then were unprocurable, but I firmly believe that the stamina I had built up in my stud, previous to the war, helped to carry my birds through. Even so disaster nearly overcame them on several occasions, for the innumerable substitute foods I tried then either did not suit the birds at all, or were only eaten in minute quantities, just keeping the birds alive. Had it not been for the timely arrival of small parcels of seed from countries abroad

per Miss Barclay-Smith and a friend in South Africa, which were thankfully acknowledged in the 1946 July-August Magazine, I really think I should probably have lost the whole stud. So serious was this seed shortage that I exchanged a beautiful pair of redheads for ten pounds of seed (pre-war value 5*s*.), my need was so desperate. Speaking of seed, white millet is the one seed I have completely stopped giving to the Gouldians, because I found after many fatalities, tests, and experiments, that it did not suit them.

In November, 1941, I was approached through our Editor by Mr. Southern, of the Oxford University Museum, to carry out certain crosses for genetic research with the two phases of Gouldians I had, blackheads and redheads. Just at this time (1941) I had an excellent stud of Gouldians to work with for this research breeding, and despite the many setbacks and losses later, it was successfully carried out. Success was almost snatched from our grasp in 1944. I had twenty-five youngsters reared, and most of these were just changing into adult plumage when the seed situation became most desperate. It should be remembered that the war was then in a very serious position, and feeding stuffs of any kind were practically non-existent. The birds were just saved by an S.O.S to Mr. Southern, who managed to get a pound of canary seed at 21*s*. This was doled out at so many grains per bird per day, and this just and only just, lasted until a small parcel arrived from overseas.

The full details of this research breeding, and the inheritance of head colour, was given by Mr. Southern in the 1946, July–August issue of the Magazine.

In 1943 I purchased a small quantity of spray millet seed from Mr. Chas. Unwin, of sweet-pea fame, who had a variety he had then been growing in England for some twelve years or more, and with it a few hints on cultivation. On the whole, this has proved very successful, and produced sprays 12 inches and 14 inches in length, full of good seed.

In 1944 the Curator of Kew Gardens kindly sent me a few seeds of a grass called *Setaria glauca*, which is not unlike a miniature spray millet. Most Gouldians and other seed-eaters are very fond of this. It is a most useful seed, as it is ready to pick before the millet sprays are ready. Bengalese are particularly fond of this seeding grass, especially when rearing young. These useful additions with a small patch of canary seed did not solve my feeding problems, for there was the growing period (4 to 5 months) before the crop was ready to use. The wild birds played havoc with the ripening seeds, particularly the Marsh Tit, for nothing would scare these little thieves. They would help themselves, even though I was in the patch trying to scare them away. I shall be pleased to give a little *Setaria glauca* seed to any of our members sending a stamped addressed envelope. This grass

should be grown in full sun, and is best treated as an annual. It is ready to pick and use when the heads are still green, feel hard, and slightly prickly.

Bad as the feeding problems were, further troubles and heavy losses developed. Blast from a near-by bomb accounted for five Gouldians one night. Hawks and Owls accounted for several more, until I double wired the fronts. Then in 1946 a far more serious trouble developed to add to the gloomy picture of my dwindling stud, an outbreak of Coccidiosis, which undoubtedly got introduced into my aviaries by wild birds fouling the seeding grasses or millet sprays I was giving to my birds. By the time this was diagnosed I had lost several Gouldians and had many sick. Here I owe a debt of thanks to one of our members, Mr. J. Nicholson, of Stockton, who went to a lot of trouble and eventually sent me the wonderful I.C.I. preparation, " Sulphamezathine," which acted like magic and cured the birds still ailing. Since this outbreak of Coccidiosis I now treat all birds showing signs of illness with this preparation, unless of course the bird is suffering from some other obvious ailment. In spite of these set-backs and losses, and with improved seed conditions, I have been able to breed my stud of Gouldians again back to normal from the two " strains " I have. Stamina has been well maintained, and their colouring, I was told by an Australian aviculturist, was superior and brighter than any he had seen in the wild state. I do not wish to boast, but they are indeed marvellous to behold.

It is with a feeling of pride that I can now look back on a unique achievement of keeping and breeding, without a single break for twenty-five years, one of the loveliest birds we have, the Gouldian Finch. I sincerely hope other aviculturists will take up these birds and improve on my achievement, but let us also hope that no breeder will ever attempt to alter this bird's unique and wonderful plumage.

I have kept a great variety of birds in my lifetime, but the Gouldian is undoubtedly one of the most attractive in every way ; it is friendly, clean, easy to cater for, long lived in suitable quarters, of smart appearance, gorgeous plumage, and with a pleasant sibilant little song and an amusing dance—a most desirable bird.

So far I have not mentioned my style of aviary or cage. These are not what one would call ornamental, but are built with the object of providing comfort and happiness for the Gouldians, and in which they are well protected against our changeable climate. In my early days of keeping Gouldians I had the usual outdoor aviary, shelter shed and open flight, but one May of very cold east winds soon convinced me that such accommodation was not suitable for Gouldians, and not too pleasant for any other warm climate bird ; so I adopted the " all closed in " type of aviary, that is completely boarded in, with an open front which has glass substitute shutters for

inclement weather. This is absolutely necessary for cold, damp, and raw winter days. The three sides and roof are felted to exclude all possible draughts. All aviaries have wooden floors, and are well up off the ground to keep them dry ; also double roofs to keep them cool in the summer ; the space between the two roofs is boarded up in winter. Gouldians do not like cold, damp foggy weather or cold winds, and they are certainly more comfortable in a temperature of between 45° and 50° during the winter. A small stove or hurricane lamp at night will keep out that cold-damp-feeling atmosphere we get during the winter months. Twiggy branches and perches are provided, and all aviary floors are covered with fine clean sea sand which is free from dust. The adoption of sea sand for the floors, coupled with a more or less dry atmosphere in the aviaries, has practically eliminated pneumonia and colds.

In addition to the sea sand grit, I also provide a receptacle of grit made up of very fine oyster shell, cuttlefish bone, and egg shells from fresh eggs baked in the oven, not shells from preserved eggs. The cuttle bone and egg shells are powdered up, of course, prior to mixing with the oyster shell. I attach great importance to this grit.

I supply a variety of nesting boxes, half filled with soft hay or semi-green grass, and put some hay on the floor for them to complete the nest building. Here is an excellent type of nest box which particularly attracts them. Make a box about 10 inches long, 5 inches wide, and 5 inches high. Carefully take out the one end and cut a small hole in one corner of it for entrance. Then nail this end piece inside the box, leaving a small platform about 4 inches deep. This leaves the actual nesting box 5 inches by 5 inches by 6 inches, and platform 5 inches by 5 inches by 4 inches. Hang this box close to the roof in a secluded corner, and cover with a few used millet sprays or twigs of heather or any such material. One small nail in the lid of the box will allow you easily to move this for examination, but don't interfere with the nesting birds any more than is absolutely necessary.

Remember Gouldian hens are very susceptible to egg-binding and this causes many losses. I would particularly urge the free use of cod liver oil treated canary seed mixed with a small quantity of the Indian type millet. This provides treated seed for birds who prefer millet to canary seed. I have found the addition of five or six drops of Halibut liver oil mixed with the cod liver oil before adding it to the seed very beneficial. I give this treated seed daily from the time of mating up until the hen commences to sit, and once or twice a week when young are being reared. Of course, they must also be provided with the usual dry canary and millet seed, but make sure the hen at least is also eating some of the treated seed by withholding the other seeds until it is eaten, or you will surely have egg-binding trouble and loss. I always keep in the aviary some Iodized Mineral Salts (fully

detailed in the 1936 July Magazine) in very small glass or china dishes, as the birds use quite a lot of this when rearing young.

When rearing young provide a dish of soaked seed or soaked millet spray, green seeding rye grass or the seed of the small annual seeding grasses usually found in garden paths, and a sod of fine grass, which is usually well picked over and the birds like the young tender blades. Then turn the sod soil upwards for further picking over. Also an occasional tray of slightly damp fine soil is relished by the Gouldians. They are not big green-food eaters, but like chickweed or a bit of lettuce. For bathing and drinking I always use cold boiled water. With a few exceptions most of the above was fully described in a previous article in the 1932 May Magazine.

Although I have reared Gouldians in almost every month of the year, the great majority of them either breed in our autumn or very early spring. In spite of the fact that I have twenty-five years of aviary bred stock, the Gouldians still conform with the Australian seasons for breeding and moulting. Most of the birds commence to moult in April or May ; this is usually a slow process, but can be helped quite a lot at this time of the year, April onwards, with the fresh seeding grass mentioned above, and the *Setaria glauca* grass heads are most helpful. A small addition of iron citrate to the drinking water daily will be found beneficial, or a few drops of syrup of hypophosphates.

Personally I consider a Gouldian is not fully reared until you have got it into full adult plumage, for in my experience this is the most serious time in its life, changing from nest feather to adult plumage, so give the youngsters particular care and attention at this time. An interesting feature of young Gouldians is the iridescent globules each side of the beak and black spots inside the mouth which show up in the dark nests.

Breeders of this beautiful bird would be well advised to keep also a few pairs of Bengalese to act as foster parents in cases of emergency. I have kept these accommodating little fosters ever since I started Gouldians, and wonderful little birds they have proved for the job.

Diseases.—So long as your Gouldians are comfortably housed as I have tried to describe, kept *scrupulously clean* and dry, you will not have much trouble, with the exception that redheaded Gouldians are subject to " Vertigo ", a twisting of the head. This trouble I have seen in newly imported redheads before the war. Curiously enough, it has cropped up amongst a nest of five young redheads bred from an imported redheaded cock lent to me. Four out of the five developed this trouble, but the fifth so far appears to be normal. I have never had this trouble crop up in the blackheadeds. As previously mentioned, always be on your guard against Coccidiosis. Since I had the outbreak in 1946 all my birds feed and drink from china or glass receptacles, which can be easily and thoroughly cleaned.

For field notes and full description of this beautiful little bird, I cannot do better than recommend Neville W. Cayley's book on Australian Finches.

In conclusion, I have repeated many items mentioned in previous articles, so I ask the indulgence of those who have read them, because this has been written with a view to help new members. I do hope it will encourage the many admirers of this truly gorgeous little bird, an outstanding attraction of any aviary.

I have read of many breeding successes of various exotics, but how many survive for a number of years? I have bred Gouldians who have lived for thirteen years in good health, and I now possess breeding pairs eight years old. A Cordon Bleu Waxbill which I reared in 1938 died only last year. Breeding foreign birds is, in my opinion, of little use unless particular attention is paid to stamina. A bird in an aviary needs special care to enable it to survive the artificial conditions of a strange habitat and climate. What I have accomplished can surely be done, and I hope surpassed, by other aviculturists.

* * *

ROCK PEPLAR PARRAKEETS, SERIOUS AND OTHERWISE

By The Duke of Bedford

I have at the moment three pairs of Rock Peplars. As this Parrakeet is rather soberly coloured it is not a favourite with many aviculturists, nor, as an ordinary aviary bird, should I myself esteem it very highly. Its flight at liberty is, however, one of the most beautiful and interesting sights in nature and it was in the hope of again seeing the wonderful exhibition of young birds trained to fly at liberty during the day-time that I decided to renew my stock of the species. I heard of a pair in the possession of a London dealer and eventually secured them. The dealer, for some unknown reason, had lent these singularly unsuitable birds to a film studio, and they arrived considerably the worse for wear, the cock having an injury to the wing from which he will never completely recover, although he can fly fairly well. About the same time I obtained two young cocks bred in 1949 which I mated to hens kindly sent me from Australia among a valuable gift of birds made by Mr. Hallstrom.

One of the Australian hens gave the impression of being a rather old bird and was so sluggish during the early winter that I never thought she would breed. However, she turned out better than her looks and she has reared four fine young ones. Her mate was still in immature plumage but when he came into breeding condition his

feathers yellowed quite noticeably and acquired an extra bloom, I am pretty sure without any kind of moult.

The old pair also did quite well. They were the first birds to lay in a grandfather clock nest in the flight and reared three good young ones.

The third pair produced no young but a first-rate comic turn! Many cock Rock Peplars, of whom the cock of this pair was certainly one, seem to be handicapped by having had Early Victorian parents who omit to teach their children "the facts of life", which they learn, (if at all) only by a laborious process of trial and error! I once had a cock—and an adult bird, too—who was desperately anxious to have a family. When the nest-box was put in he drove his wife into it and made her stay there until she laid (an unusual proceeding in a Polyteline Parrakeet). Any suggestions on her part that there was a contribution which *he* had to make towards the production of offspring he received with angry impatience as a mere excuse for neglecting her duty and wasting time. The result—infertile eggs—demonstrated the truth of the maxim "more haste, less speed". However, he was not incapable of learning by experience, and next year he decided that his wife might be right after all!

My young cock this year, although he came into breeding condition after a fashion and was not indifferent to his mate's nesting activities, had not the foggiest idea as to the proper way of discharging any of his marital duties. When the hen wanted him to feed her he refused to do so but persistently "fed" the perch instead, making, as he did so, noises like a hen Rock Peplar wanting to be fed! Even more serious errors in technique on his part resulted in infertile eggs. These I removed after a fortnight—hoping that he might learn wisdom and that the hen might lay again. The poor lady, however, disappointed in her hopes of offspring and in the worst of tempers, drove her foolish husband irritably away and started a heavy moult. It was then, however, that the fun really began! The cock, quite unabashed, continued his ridiculous perch-feeding operations and even added insult to injury by entering a nest-box (*not*, incidentally, the one his mate had occupied), and pretending to feed imaginary offspring as well! This was too much for his wife. "If this joint has *got* to be Bedlam," she clearly said, "I will show him that I can be as good a Bedlamite as he!" In the front of the aviary shelter there is a pane of glass covered with wire netting and a foot or two to the left the entrance hole giving access to the shelter. The hen Rock Peplar knew the way into the shelter as well as I did, for the food dish was inside, but although quite out of real breeding condition and dropping feathers, she pretended that she was on the point of laying an egg and could see, through the window, an enchanting nest inside the shelter which the wire and glass prevented her from reaching. She

proceeded to spend hours frantically climbing about the wire and swaying her head from side to side in a pretended effort to find a way in. Before long she succeeded in fooling the cock and getting *him* quite interested in the imaginary nest, which I am sure was the object of her manœuvre, but she had reckoned without one factor—her own feminine psychology ! Hen Rock Peplars, it seems, share with women a capacity denied to any mere man—even a thoroughly experienced bird dealer. They can sometimes make themselves believe their own lies ! ! Having pretended so strenuously that she wanted to lay an egg, she began to think that she really did want to ! She therefore stopped moulting ; came back into breeding condition ; renewed her advances to her mate ; took to a real nest-box, and laid a second lot of eggs. These again unfortunately proved infertile, though for a time I hoped that her perseverance would be rewarded as the cock seemed to be getting the hang of things a bit better. He even ended by going into the nest to feed her, but before doing so he decided to get his own back on her for taking him in over the shelter " nest ". I heard her one day calling to him from inside the box to come and feed her, but although it happened to be the same nest in which he had been in the habit of " feeding " the imaginary family he pretended that, though dying to comply with her request, he simply *couldn't* find the way in ! " My dear, I know you are starving ; I do want to help you, but I simply can't find the hole ! Oh, what shall I do ? " Just as she had scrambled frantically about the window, so he now scrambled frantically about the sides of the nest-box and peered down the back, looking everywhere but where the hole really was—in the front, as plain as the beak on his face !

* * *

OBSERVATIONS ON SOME BIRDS IN ADEN COLONY, SOUTH ARABIA

By Kenneth J. Smith

During Royal Air Force service in 1945 I spent eleven months, from January to November, in Aden Colony in South Arabia, and in my spare time I had good opportunities to study the fauna. There was a wealth of bird life along the coasts and in the plantations and acacia belts, and a few species existed in areas of scrub and in the open desert.

To voyagers passing through the Gulf of Aden the rocks towering above Aden port seem barren, but stunted and gnarled trees and aromatic plants cling in places to the volcanic slopes. The deep gorges have a sparse growth of grasses, acacias, and red-stemmed abb

trees. Often I wandered among these desolate rock fastnesses. Basking lizards retreated as I scrambled along boulder-strewn ravines and climbed the hot, loose rock faces. Flycatchers and Rock Chats were seen, the Chats often displaying with open wings and with tail extended fanwise. Sometimes a Yellow-vented Bulbul would break into sweet liquid song, ending the dead silence of the valleys. Crag Martins, hawking for insects, passed up and down the gullies, and I found their mud nests in caves.

I climbed Sham-Sham, the highest peak of the Aden promontory, several times. The views from the summit made it worth the toil and sweat, and it was an ideal place to watch the Kites, Egyptian Vultures, and Tawny Eagles. High above they appeared as tiny curves moving over a cloudless sky, while others glided below and at eye level with effortless grace in the clear, still air. A pair of Lesser Peregrine Falcons seemed to have their nest on an inaccessible ridge. Whenever I passed along the narrow ledge beneath they swept from the pinnacles with raucous cries, then stooped and passed so close that I could hear the swish of their wings as they hurtled over the edge of a precipice.

Of the islands off Aden, Sira Island and Slave Island were most easy to visit. The former, lying off the bustling native town called Crater, I always remember for the flocks of Sooty Gulls (*Larus hemprichii*) which waited for the return of the Arab fishing boats, and it was on Sira that I recorded my only Cormorant.

Slave Island lies in the arms of Aden bay, and can be reached by wading from the mainland across mud and through a mile of shallow sea at low tide. It got its name, I was told, from its use in bygone days as a dumping ground for slaves brought over from Somaliland by the Arabs. Now it is uninhabited, a splendid place to watch the Pelicans and Flamingoes feeding and resting in the bay. Occasionally a group of Pelicans would rise, then, having attained a certain height, would circle and climb up and up in spirals till they were out of my sight. When the Flamingoes flew off in long trailing lines against the background of a red Arabian sunset the scene was doubled in beauty by the reflection of the sky in the sea. Many waders were seen on Slave Island beaches, such as Oyster-catchers, Redshanks, and Herons, but the Crab Plovers (*Dromas ardeola*) interested me most of all. In the distance they looked like little pied Herons as they paddled in the shallows made by the receding tide, and when approached they flew off swiftly across the water. My notes, taken at the time of observation, mention some of their habits being not unlike those of the true Plovers, and the cry is likened to " a cackling and crude laugh ".

Two species of Tern were particularly common around the sandy Aden coasts ; the Red Sea Swift Tern (*Sterna bergii velox*), with yellow bill and handsome black crest, and the Lesser Crested Tern (*Sterna bengalensis*), with orange-coloured bill. Large flocks flew leisurely over

the waves, birds plopping or diving down now and again to fetch a fish from the water. Another bird often seen round the coasts, especially where rocky, was the Osprey. I liked to watch Ospreys fish, to see a bird return to shore to devour its prey, often to the same look-out position time after time. I discovered two Ospreys' nests, but I could not examine them closely as they were built on high cliffs and were protected by formidable overhanging rocks.

The port area of Aden is connected to the native township of Sheik Othmann, and to the desert beyond, by a causeway at Khormaksar. Here, on both sides of the causeway, are wide expanses of salt-pans, or salt lakes. In the process of obtaining salt from sea water by evaporation under the fierce sun the pans are generally at varying levels, so that some are always suitable for birds. Pelicans and Flamingoes frequented the deep ones, while the smaller Waders showed a preference for shallow pans. Feeding Spoonbills advanced through the water in formation, shovelling and swinging their bills from side to side, and flying Avocets made a pleasing impression in black and white. Several times I saw Black-winged Stilts, and in March two Sacred Ibis turned up on an almost dry salt pan near Jibir for a few days. I watched them forage, their curved bills entirely submerged in mud much of the time.

Three kinds of Heron occurred on the salt-pans ; the Grey Heron (*Ardea cinera*), the Red Sea Reef Heron (*Egretta schistacea*), and the Red Sea Green-backed Heron (*Butorides striatus brevipes*). The Red Sea Reef Heron, about the size of a little Egret, and appearing in two forms—white and slate blue, was very common. I counted thirty on one small marsh, and it was quite usual to count over a hundred in an afternoon visit to the salt-pans. The Red Sea Green-backed Heron is a more solitary bird, bittern-like in its poses, and of skulking habits. Unlike the Reef Heron, it sometimes extends its neck fully in flight, and instead of rising sharply it takes off on a low direct flight across the water.

Parts of Arabia are almost rainless. I experienced under half an hour of rainfall during my entire stay in Aden Colony. Many of the wadis remain dry for months, perhaps years, and villages are situated where water has been obtained by sinking wells deep beneath the desert sands. In these conditions groves and plantations, especially where watered by irrigation channels, are havens for birds. In a grove at Hiswa I recorded an Arabian Grey-headed Kingfisher and a Chanting Goshawk nested in the palms. Bee-eaters frequented the greenery and banks of a dry wadi that runs through the desert from Hiswa towards Bir Ahmed, and one day when following the birds I surprised a pair of Gazelles behind a sandy hillock.

In the pleasant public gardens outside Sheik Othmann town I found colonies of nesting Weavers. High in the palms were the

nests of the Arabian Kites (*Milvus migrans arabicus*) that scavenged around the native houses, and several of the Sunbirds I found nesting in the gardens were, I think, of the Nile Valley species. Buff-backed Herons stalked among plots of Indian corn, and once I watched a Blue-headed Wagtail flitting alongside the water channels. Cuckoos, Equatorial Laughing Doves, and blue Rollers (*Coracias garrulus*) were also seen. Twice when I visited Sheik Othmann, once in the gardens and once among some dense acacia growth by a mosque at the desert edge, I heard the flute-like notes of the Golden Oriole, and looking up saw flashes of yellow and black in the canopy of the trees.

North of Sheik Othmann, away across the desert that leads to the Yemen, is Lahej. The palace of the Sultan dominates the town, and when I passed through to visit the Sultan's plantations beyond I was surrounded by crowds of inquisitive Arabs, for Europeans seldom travel this way. Along the dusty road from the town to the plantations I noted Hoopoes flying among the wayside trees and prancing among the crops, little disturbed by passing camels, goats, donkeys, and noisy natives. The Sultan's plantations are well supplied with water, being by a wadi which often receives water from rainfall on mountains further inland. Bananas and other fruits are cultivated, and here I found Paradise Flycatchers, Bulbuls, Sunbirds, Coucals, and more Hoopoes.

Black Bush-Robins and two species of Shrike inhabited patches of scrub, but the most common bird encountered in the desert was the Hoopoe-Lark. It is a most confiding bird. Very Thrush-like in gait, it occasionally runs along the sand and seems reluctant to fly away. I recorded Hoopoe-Larks from all parts of the desert I covered, from near Hiswa, Jibir, Bir Fukum, Lahej, and from Riyan, in the Hadhramaut desert, east of Mukalla. One morning I was fortunate in seeing a large flock of White Storks passing over the desert on migration.

* * *

RHEA BREEDING

By A. F. C. A. VAN HEYST

The following table shows the results of Rhea breeding during the season 1950 :—

Rheas (*Rhea americana*)	Dates of laying	Number of eggs Laid	Number of eggs Incubated	Number of Birds Hatched	Number of Birds Reared *
Two grey cocks, three grey hens, and one white hen. All adult birds.	March, 28, April 1, 5, 6, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 18, 19, 20, 20, 25, 25, 27, 29, 29, 30, May 1, 3, 5, 9, 9, 11, 13, 13, 13, 15, 15, 16, 17, 17, 17, 19, 21, 23, 24, between May 25 and June 4 9 eggs were laid, further June 6, 9, 13, 30, July 4, 8.	58	37	5	5

As will be seen, last spring the stock consisted of two cocks and four hen Rheas. One of these, a white hen, the Rotterdam Zoo gave on loan. Two cocks and two hens were received from the Argentine some years before. The remaining hen came from U.S.A., apparently a bird bred in an American zoo. The latter died 20th May inst. from egg-binding.

The eggs laid by each hen were noted till 13th May. The dates are as follows :—

Hen No. 1 (Argentine)	April 16, 18, 20, 27, 29, May 1, 3, 5, 9, 13.
Hen No. 2 (,,)	April 15, 17, 20, 25, 29.
Hen No. 3 (U.S.A.)	April 6, 8, 10, 12, 14, 18, May 11, 13.
Hen No. 4 (white one)	March 28, April 1, 5, 9, 13, 19, 25, 30, May 9, 13.

My cock Rheas are never broody before the weather is hot, and as this was not the case this year before the first week of May, a number of eggs became too old and were useless. On 12th May one cock showed symptoms of broodiness and seventeen eggs were then placed in the nest, on which he promptly sat.

During incubation several eggs were broken by the broody cock, so that on 17th May only thirteen eggs remained. On 8th June the nest contained twelve eggs and on 24th June one young Rhea hatched. Thus, in this case, the incubation lasted about forty-three days, rather a long time, which I ascribe to the fact that the cock was not sitting

* Reared in this case means that the birds were in good condition at 2 months old at the time of writing.

very close and the weather being very cold. The other eggs were clear.

The other cock started brooding on 24th May. This time on twelve eggs. The females were not separated. On 27th May the nest contained fourteen eggs and on 4th June, when the bird left the nest for a short time, we counted twenty eggs. The hens were then put apart. This cock was brooding well, rarely leaving the nest, and only one egg was broken during incubation. On 2nd July one young Rhea hatched and on the following day three more chicks made their appearance. Out of thirty-seven eggs incubated, therefore, not more than five chicks hatched, a rather disappointing result.

In aviculture it is not always easy to ascertain the reasons for breeding failures, which also applies to this case. I may, however, draw the attention to the following facts :—

(1) Always a high percentage of the eggs laid by Rheas are not fertile. This is not only the case here, but also in the country of origin. I hear from the Argentine that one must reckon on 40 per cent infertile eggs. Having studied the behaviour of the cock Rhea in the breeding season, during a number of years, I have come to the following conclusions :—

(*a*) That the number of eggs fertilized by one pairing is small ;

(*b*) That the pairing takes place with rather long intervals. This means that many eggs must remain infertile if the cock Rhea has a harem at his disposition.

There is, of course, a sexual difference between the temperament of individual cock Rheas, but in general I believe that a higher percentage of fertility will be obtained if the cock is treated as more or less monogamous, though in the wild state it is polygamous. Therefore, my having four hens with one cock at one time was not an unnatural combination, but it was probably not a good ratio if one hopes for a high percentage of fertile eggs. It seems that in captivity polyandry also occurs, but as a rule in the mating season the fiercest cock of a flock drives away other cocks and the females take the company of the former. When the cock starts sitting a few more eggs may be laid near the breeding bird, but soon the females stray and another cock, if present, will be promoted husband.

(2) The eggs are collected as soon as they are laid. When a certain number of eggs have been collected we wait till the weather is hot and then place them in the nest and usually at the mere sight of the eggs the cock will sit. In case the bird has not chosen a good place for his nest we make another nest at a suitable place, in which the eggs are deposited. Now as to the number of eggs to be placed in the nest, I believe there must be some restriction. Perhaps not more than twelve to thirteen eggs can be kept sufficiently warm, and maybe

the above-mentioned clutches of seventeen and twenty eggs were too large, with the result that every day some eggs were cold, making the embryos die at an early stage.

(3) Further, there is the question of food. My Rheas have access to a meadow and can consequently eat as much grass as they like. In the morning bread is given and in the evening La Plata maizemeal. When grass is scarce in winter, Swedish turnip, cut up in pieces, is added to the menu. Now I thought maizemeal did not provide sufficient variation of diet and instead started giving the birds at the beginning of the year a mixture of maizemeal, poultry meal, and dried shrimps. Since then, too late, however, I have remarked that if the portions of maizemeal are mixed and thus the quantity of maizemeal diminished, the effect is that the cock Rhea becomes less sensible to the charms of his light-hearted companions. It is possible that the fact that Rheas got less maizemeal this year unfavourably influenced the breeding results.

Long ago I had young Rheas brought up by broody Turkey-hens. As, however, a Turkey-hen can only cover two eggs, not more and not less, placed in a nest with a deep hollow and as a number of broody Turkey-hens are not always obtainable at one time, this method can only be put into practice on a small scale and can only be recommended in case of need, to save a few eggs.

The rearing of young Rheas by the cock Rhea himself has very attractive aspects, for a cock Rhea amidst a dozen of young ones is a grand sight. This method has, however, several disadvantages and my experiences are not very good :—

(1) The cock Rhea is very nervous when the young birds walk around him, with the result that he often tramples on them.

(2) It is practically impossible to give the young Rheas separate food.

(3) The cock Rhea, in his nervous state, will not sit often enough, so that many chicks perish from lack of warmth when the weather is cold or rainy.

It seems that good results can be obtained by the use of an incubator, but possessing no incubator, I am not able to give any information. For the last two years the young Rheas have been taken as soon as they leave the nest. When doing this the old bird will rise, but he will sit again if the eggs that have not yet hatched remain in the nest. The young Rheas are put in a shed furnished with an electric heating lamp. The temperature under the lamp is kept for the first two weeks at about 85 degrees Fahrenheit on the floor. After that the temperature is gradually lowered and provided the weather is fine the lamp is only kept lit during the night.

In the beginning the young Rheas are unsteady on their legs. In consequence, they can keep their balance better when pecking

horizontally than when pecking to the ground. In this connection we place near the birds, but not under the lamp, a woodblock, about 5 inches high and sprinkle the food on this woodblock for the first few days. In this way we never have difficulty in starting them feeding as the beginning is always a pecking in vertical line.

The first two days we give the young birds fresh ant eggs and the yolk of hard-boiled egg. After that the hard-boiled egg is omitted and moistened chicken meal and white bread are given. The chicken-meal is gradually replaced by poultry-meal and the poultry-meal by maizemeal. Fresh ant eggs are given as long as obtainable and plenty of them. To be more exact, for instance when the birds are three weeks old, three times a day a soup-spoon of ant eggs per head is given. The meal is mixed with phosphate of lime and vitamins A and D. We never feed cut up grass. When Rheas graze they peck each time one single grass-blade. On the contrary when given cut up grass, each time they peck they get a mouthful and they apparently cannot digest this grass quickly enough. A certain amount of grass then remains in the stomach, forming grass balls, which they cannot get rid of, and they die.

Care must be taken that the young Rheas do not grow fat. If so, the legs, which are not very strong in the beginning, cannot support the heavy body and leg-deformities are the result. It is therefore essential that the birds should be able to take much exercise on the lawn and that they are not overfed. Drinking water must not be forgotten as they are sometimes very thirsty.

* * *

CHARLES CORDIER'S LATEST COLLECTION

By Lee Crandall

The bird collections of the New York Zoological Park (Bronx Zoo) were again enriched on 20th July, 1950, by the arrival of Charles Cordier, our collector, with a superb collection gathered in Ecuador. Accompanied by Mrs. Cordier, now an able and experienced assistant, Cordier left for his field of operations on 2nd October, 1949. Headquarters were established in Quito, and here the products of numerous side trips were maintained in excellent condition under the supervision of Mrs. Cordier.

The return to New York was made by a special airplane flight, which again demonstrated the efficiency of this mode of transportation when the value of the collection justifies the cost. There were no losses en route and everything was landed in excellent condition. Projects of this magnitude cannot be carried through without many risks and ventures, but these are forgotten in light of the rich returns.

The collection contains many highlights. The Long-wattled Umbrella Birds, from the western slope of the Andes, include three

males and one female. The extremely long wattle, reaching a length of 10–12 inches, is a challenge to observation. The Eastern Umbrella Bird, of which we have two males, are quite different in appearance, the white iris and white patch at the base of the crest being very distinctive.

The Cocks-of-the-Rock, while less deep in colour than the Scarlet (*sanguinolenta*) from the west slope, are brilliant in frosted reddish-orange.

There are many other great rarities, of course, but the Hummingbirds include many notable forms. Best of all is the incredible Sword-bill, its beak quite 5 inches long and noticeably thick. Fortunately, Cordier's specimen is a female, the beak in this sex being longer than that of the male. In a single day of intensive work Cordier taught the bird to feed from an ordinary hummer bottle, which it continues to do with facility.

This collection, a list of which follows, represents another great success to the credit of Charles Cordier.

1 Jardine's Pigmy Owl—*Glaucidium jardinii jardinii* (Bonaparte). *1 Ecuadorian Sword-billed Hummingbird—*Ensifera ensifera ensifera* (Boissonneau). *2 White-tailed Hill Stars—*Urochroa bougeri leucura* Lawrence. *4 Boucard's Train Bearers—*Lesbia victoriæ æquatorialis* Boucard. *3 Salvin's Sun Angels—*Heliangelus amethysticollis laticlavius* Salvin. *1 Brown Violet-eared Hummingbird—*Colibri delphinæ* (Lesson). 3 Gould's Violet-eared Hummingbirds—*Colibri coruscans coruscans* (Gould). *3 Western Buff-tailed Coronets—*Boissoneaua flavescens tinochlora* Oberholser. *1 Rosy-throat—*Heliodoxa rubinoides cervinigularis* (Salvin). *1 Amethyst Hummingbird—*Calliphlox amethystina* (Boddaert). 7 Black-billed Emeralds—*Chlorostilbon gibsoni melanorhynchus* Gould. 2 Green-headed Emeralds—*Amazilia franciæ viridiceps* (Gould). *3 Heine's Hummingbirds—*Amazilia tzactl jucunda* (Heine). *5 Green-tailed Sylphs—*Aglaiocercus kingi mocoa* (DeLattre and Bourcier). 1 Heavenly Sylph—*Aglaiocercus cœlestis cœlestis* (Gould). *4 Ecuadorian Copper-tails—*Metallura williami primolina* Bourcier. *2 Quito Tyrian-tails—*Metallura tyrianthina tyrianthina* (Loddiges). *5 Small-billed Thorn-bills—*Ramphomicron microrhynchum microrhynchum* (Boissonneau). *7 Comte de Paris' Star-frontlets—*Cœligena lutetiæ* (DeLattre and Bourcier). *4 Collared Incas—*Cœligena torquata torquata* (Boissonneau). *1 Scissor-tailed Racket-tail—*Ocreatus underwoodii peruanus* (Gould). *1 Emily's Hermit—*Phæthornis guy apicalis* (Tschudi). *4 Chimborazo Hill Stars—*Oreotrochilus chimborazo chimborazo* (DeLattre and Bourcier). *2 Gould's Sickle-bills—*Eutoxeres aquila heterura* Gould. *1 Green-breasted Puff-leg—*Eriocnemis vestitus smaragdinipectus* Gould. *1 Black-breasted Puff-leg—*Eriocnemis nigrivestis* (Bourcier and Mulsant). *1 Bouquet's Puff-leg—*Eriocnemis*

* Denotes species new to our collection.

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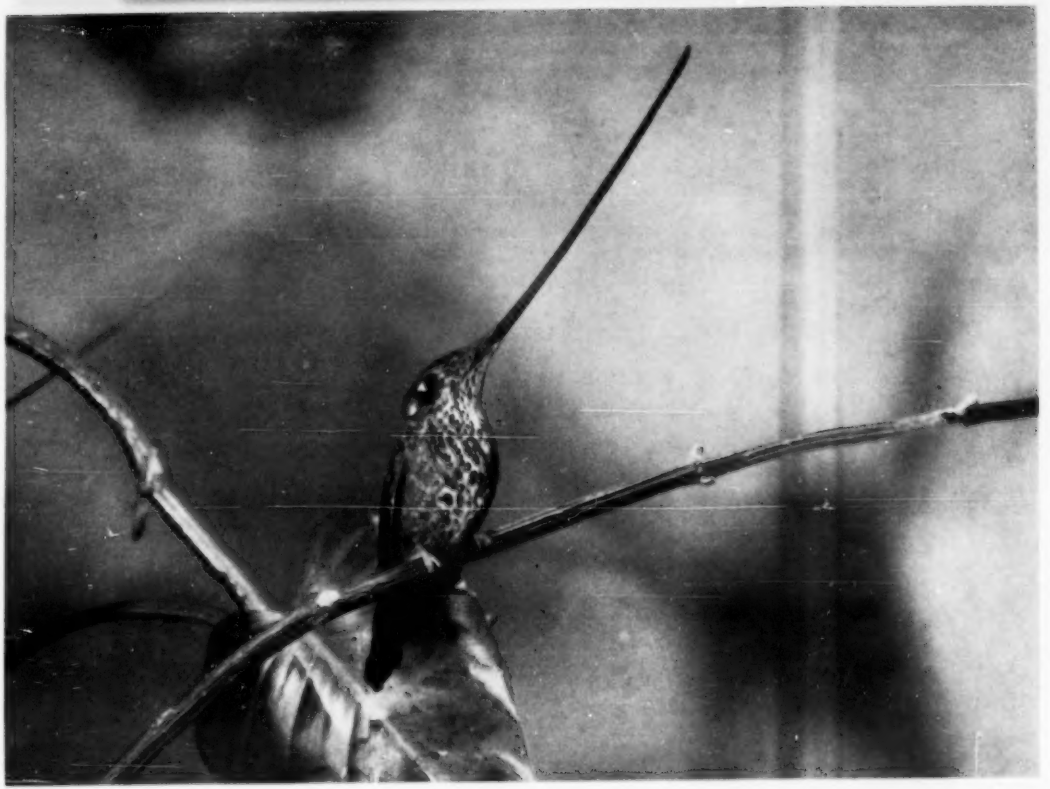
LONG-WATTLED UMBRELLA BIRD

Cephalopterus ornatus penduliger Sclater.

[To face p. 206.



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ECUADORIAN SWORD-BILLED HUMMING BIRD
Ensifera ensifera ensifera (Boissonneau).

luciani luciani (Bourcier). *1 Long-billed Lance-bill—*Doryfera ludovicæ rectirostris* Gould. 6 Orange-breasted Barbets—*Capito aurovirens* (Cuvier). 1 Rufous-fronted Barbet—*Capito squamatus* Salvin. *2 Sclater's Motmots—*Momotus momota microstephanus* Sclater. *1 Many-banded Aracari—*Pteroglossus pluricinctus* Gould. *3 Chestnut-eared Aracaris—*Pteroglossus castanotis castanotis* Gould. *5 Yellow-billed Aracaris—*Pteroglossus flavirostris flavirostris* Fraser. *1 Red-backed Aracari—*Pteroglossus erythropygius* Gould. 1 Cuvier's Toucan—*Ramphastos cuvieri cuvieri* Wagler. *3 Western Black Woodpeckers—*Melanerpes cruentatus extensus* (Todd). *1 Chestnut-crowned Ant-pitta—*Grallaria ruficapilla ruficapilla* Lafresnaye. *1 Mountain Ant-pitta—*Grallaria quitensis quitensis* Lesson. *1 Black-faced Tityra—*Tityra semifasciata nigriceps* Allen. *1 Banded Cotinga—*Pipreola arcuata* (Lafresnaye). *3 Red-crested Cotingas—*Heliochera rubrocristata* (Lafresnaye and d'Orbigny). *3 Purple-throated Fruit Crows—*Querula purpurata* (Muller). *11 Equatorial Cocks-of-the-Rock—*Rupicola peruviana æquatorialis* Taczanowski. *2 Eastern Umbrella Birds—*Cephalopterus ornatus ornatus* St. Helaire. *4 Long-wattled Umbrella Birds—*Cephalopterus ornatus penduliger* Sclater. *1 Berlepsch's Golden-headed Manakin—*Pipra erythrocephala berlepschi* Ridgway. *3 Ecuadorian Manakins—*Manacus manacus leucochlamys* Chapman. 1 Violaceus Jay—*Cyanocorax violaceus* Du Bus. *1 Turquoise Jay—*Cyanolyca turcosa* (Bonaparte). 5 Inca Jays—*Xanthoura yncas yncas* (Boddaert). *1 White-eyed Black Robin—*Platycichla flavipes leucops* (Taczanowski). *1 Masked Sugar-bird—*Diglossa cyanea cyanea* (Lafresnaye). *1 Indigo Sugar-bird—*Diglossa indigotica* Sclater. 1 Yellow-backed Cacique—*Cacicus cela cela* (Linnaeus). 1 Giant Oriole—*Gymnomystax mexicanus* (Linnaeus). 2 Western Swallow-Tanagers—*Tersina viridis occidentalis* (Sclater). 4 Tawny-crowned Tanagers—*Tachyphonus delatrii delatrii* Lafresnaye. *13 Red-eared Tanagers—*Poecilothraupis igniventris erythrotus* (Jardine and Selby). *1 Orange-breasted Tanager—*Poecilothraupis lacrymosa palpebrosa* (Lafresnaye). *2 Blue-capped Tanagers—*Thraupis cyanocephala cyanocephala* (Lafresnaye and d'Orbigny). 2 Darwin's Tanagers—*Thraupis bonariensis darwinii* (Bonaparte). *2 Orange-crested Tanagers—*Iridosornis rufivertex rufivertex* (Lafresnaye). 2 Hooded Mountain Tanagers—*Buthraupis montana cucullata* (Jardine and Selby). 3 Rieffer's Grass-green Tanagers—*Chlorornis riefferii riefferii* (Boissonneau). 3 Lesser Magpie Tanagers—*Cissopis leveriana leveriana* (Gmelin). *2 Blue-shouldered Mountain Tanagers—*Compsocoma flavinucha somptuosa* (Lesson). *2 Buff-breasted Mountain Tanagers—*Dubusia tæniata tæniata* (Boissonneau). *1 Finch-like Tanager—*Oreothraupis arremonops* (Sclater). *1 Yellow-throated Olive Tanager—*Chlorospingus flavigularis flavigularis* (Sclater). *3 Yellow-breasted Spotted Callistes—*Tangara*

* Denotes species new to our collection.

xanthogastra (Sclater). *3 Northern Blue-necked Callistes—*Tangara cyanicollis cæruleocephala* (Swainson). *1 Red-backed Paradise Calliste—*Tangara chilensis chilensis* (Vigors). *4 Short-billed Euphonias—*Tanagra xanthogaster brevirostris* (Bonaparte). 1 Golden-breasted Grosbeak—*Pheucticus chrysopeplus chrysogaster* (Lesson). *2 Boissonneau's Sparrows—*Atlapetes torquatus assimilis* (Boissonneau). 1 Chestnut-capped Buarremon Sparrow—*Atlapetes brunnei-nucha brunnei-nucha* (Lafresnaye). *2 Slaty-backed Sparrows—*Atlapetes rufinucha spodionotus* (Sclater and Salvadori).

* * *

THE BREEDING OF THE PILEATED OR RED-CAPPED PARRAKEET AT KESTON FOR THE FIRST TIME IN ENGLAND FOR FORTY YEARS.

By Edward Boosey

I had intended including an account of the breeding this season at Keston of the Pileated Parrakeet (*Porphyrocephalus spurrius*) in the farm breeding results, but as it is just forty years since this fine Parrakeet was last bred in the British Isles, and as it has only ever been bred on two previous occasions in this country, I thought the event merited a separate account.

The two previous successful breeders were Mr. Hubert Astley and Mr. Fasey, in both cases during the first decade of the present century.

The pair at Keston went to nest towards the end of April, laying six eggs, every one of which hatched, and all six young ones have just finished fledging as I write (17th July), the first one having emerged on 12th July. They are very strong fliers and altogether an exceptionally fine brood—quite as good as the best young Parrakeets we ever bred at Keston in pre-war days.

One curious thing about them which I cannot remember in any other brood of newly fledged Parrakeets is that whereas the first two young ones to leave the nest were remarkably steady and sensible, indulging in none of the usual juvenile bosh shots at perches, and crash landings—so harassing for their anxious owner to watch—the last four to emerge were as wild as Hawks (or young Turquoisines !) so that one hardly dare go near their aviary.

In colour they are very unlike their resplendent parents, being mainly green, rather lighter on the cheeks and with the whole of the breast medium grey with the faintest suggestion of mauve in it. The only sign of a future red cap consists of a few small reddish-orange feathers just above the nostrils. Their beaks are very pale horn-colour. In the first two to fledge which, owing to their steadiness, I was able to examine at close quarters, the lower flanks and under tail-coverts

* Denotes species new to our collection.

of one are mainly red with tinges of yellowish-green at the outer edge of some of the feathers, while those of the other are mainly yellowish-green with tinges of red. It is possible that these two may prove a pair, particularly as the former—presumably the cock—has, if anything, a slightly more mauve look about the breast.

They have, of course, the curious beak of an adult Pileated, which owing, I suppose, to the slightly elongated lower mandible, does not, as it were, close properly, so that seen in profile you can see the light of day through the gap in the centre.

The pair of Pileated arrived at Keston last summer too late to breed, and were at first housed in one of our field aviaries with a double-length flight. To begin with they did well, until one morning I found the hen ill. She was in tight feather but seemed dazed and unnaturally slow in her movements and reactions. What was wrong I don't know, but I feared she was about to have one of the fits to which Pileated are reputedly so prone. In any case, I hurriedly caught her up and she was given heat treatment in a hospital cage and, in addition, that marvellous drug Sulphamezathine in her water for the prescribed five days, and as a result she made a swift recovery.

After that I decided that the pair had better spend the winter in a large flight cage in the acclimatizing room, and in this they did very well although artificial heat was only supplied during spells of really cold weather.

During this period they were fed on canary, millet, sunflower, and monkey nuts—no hemp—and they had bread soaked in sweetened watered milk and also apple, the two latter being given on alternate days.

It is, I think, of considerable interest that almost in every case the highest percentage of fertile eggs among members of the Parrot family at Keston this season was to be found among the birds to which I have recently started giving bread and milk—the Pileated, the Ringnecks, and the Roseate Cockatoos—and this was particularly marked in the case of the Pileated Parrakeets, whose confinement in a flight cage during the winter months might well have been expected to impair their fertility, whereas it seems to have done quite the reverse. Perhaps one ought always to cage one's breeding pairs of Parrakeets for the winter in order to prevent their being rendered infertile by too much exercise !

The Pileated were bred in one of our standard size field aviaries which have an overall length of 15 feet. The parents were given two nest-boxes, one of the grandfather clock type and the other, which was about 2 ft. 6 in. deep, hung up on the front of the shelter under overhead cover, and of the two they chose the latter. Both boxes had a decayed wood filling.

While they were rearing their brood they consumed an astonishing

amount of sweetened bread and milk, but seemed to lose all interest in sunflower and monkey nuts, and as their only desire appeared to be for hemp, I greatly increased their allowance of it. I shall, however, gradually have to reduce it as soon as the young ones are independent of their parents, because while I think it is an excellent rearing food, most Parrakeets are only too prone to become entirely addicted to it, to the exclusion of all other seeds, and this they should never be allowed to do.

As green food, the Pileated had a daily supply of flowering ryegrass and seakale beet, of which they are very fond of the fleshy white stalks. I did not give them fruit as really ripe sweet fruit is hard to come by in the spring and early summer months—particularly since the war—and I am certain that unless the fruit given really is sweet and ripe it can do a great deal more harm than good, not so much to the parents as to the delicate stomachs of the nestlings to whom they feed it.

The Pileated Parrakeet, which many readers of this article may never have seen, is a really magnificent bird, in some ways like and in others very unlike the Broadtails, to which it is most closely related.

The male has the mantle and wings green ; the outer edge of the wing and part of the flight feathers blue. Central tail feathers dark green, and the outer ones blue bordered with white. The cap is crimson and the cheeks greenish-yellow, the same colour as the rump. The under tail-coverts red, and the whole of the breast a beautiful violet-purple. The bill is a dark bluish horn-colour.

The females are said to be variable as to colour, but the one we have is obliging enough to conform exactly to the weary author's invariable description (when in doubt !) of the hen of any particular species as : " Similar to the male, though all her colours are slightly duller."

These Parrakeets are great bathers, and the hen, while sitting, always used to have a hurried bath when she came off the eggs, returning to the nest-box when still wet, which I always like to see as it prevents the nest becoming too dry and the shells of the eggs correspondingly hard and brittle. The young ones also, early evinced the same love of bathing, which they even started to do only a few days after they left the nest, which is something I cannot ever remember having observed in any other young newly fledged Parrakeets, which usually start to bathe after a fortnight or so when they have become independent of their parents.

The Pileated Parrakeet is a native of South-West Australia where it has not, I believe, a very extensive range, and this, combined with the fact that it is an orchard raider, and therefore much hated and persecuted by Australian fruit farmers, makes its survival precarious indeed, unless it can be saved from extinction by being systematically

bred in aviaries both here and in its own country. I believe it is fairly well established in certain Californian aviaries, and the credit for this is largely due to the present Duke of Bedford, who sent out breeding stocks before the war.

Pileated are extremely active birds, always on the move, and they have a curious and distinctive cry, best rendered as : " Clor-clor . . . crilk-crilk-crilk ! " and anything unusual is greeted by the alarm note, a sharp double " Crilk-crilk ! ".

I sometimes think I should like to be given the job of renaming some of the—at present—very stupidly named Parrakeets, of which the Pileated is a good example. " Pileated " conveys nothing whatever to most people and gives no inkling of the magnificent appearance of the bird to which it has been given. Its alternative name of Red-capped Parrakeet is certainly much better, but even this gives no indication of the bird's most striking—and indeed among Parrakeets, unique feature—namely its beautiful violet-purple breast ; so I would not have hesitated to call it the Purple-breasted Parrakeet.

* * *

THE NESTING OF MUSCHENBROEK'S LORIKEET

By The Duke of Bedford

A pair of these Lorikeets from the mountains of New Guinea were included in the Australian collection sent me by Mr. Hallstrom last summer.

They are small birds, little larger, in fact, that Peachfaced Lovebirds, though longer by reason of their pointed tails. In build and movements they bear a considerable resemblance to the Trichoglossine Lorikeets although they do not posture in quite the same absurd fashion as the latter. The general plumage is green, slightly paler on the cheeks and flanks and the top of the head is washed with brownish gold. The breast is red and there is a red bar across the inner webs of the flights which does not show when the wing is closed, and some red and yellow on the inner webs of the tail feathers, which normally do not show either. The bill is long and curved and of a yellowish horn colour and the legs and feet are dusky.

Although in most respects typical Lorikeets, my aviary attendant is of opinion that they have not brush tongues and their feeding habits point in the same direction for they have persistently refused liquid food other than a little sweetened bread and milk when rearing young, and have lived on mixed seed, sweet apple and pear and grapes.

The late summer and autumn of the year of their arrival they spent in a small brick-floored avairy at Haywards Heath and, as my aviary

attendant did not consider the hen very robust, as she flew somewhat heavily, they were kept in a flight cage in heated birdrooms during the winter. In the early months of the present year they were transferred to Woburn where I had the chance of observing them properly for the first time. The cock and hen were very much alike but the former was slightly larger and brighter in colour. They were an affectionate couple, often preening each other's feathers and never far apart. Occasionally, if the cock were disturbed and upset, he would give his wife a peck but there seemed no personal ill-feeling behind it and she appeared to be aware that this was the case !

The Lorikeets' calls were rather harsh and sibilant but too low in tone and too lacking in volume to be unpleasant, even in a confined space. In April I turned the pair into a 24 ft. by 8 ft. by 8 ft. movable aviary, giving them a little heat in the shelter by means of an oil lamp. They did not appear to mind the vile weather in the least, spending all their time in the flight and it would not surprise me if they proved as hardy as Swainsons. I provided them with a grandfather clock nest-box in the flight, of which at first they took no notice. Towards the end of May, however, the hen seemed to me to be getting livelier and more assertive and I once saw her making a casual inspection of the entrance hole. A little later, rather suddenly and unexpectedly, the pair took to roosting in the box and not long after to spending most of their time in it. In June it was discovered that two eggs had been laid. The cock was rarely seen off the nest and the hen hardly ever. How far the cock helped to incubate I cannot say. He certainly did not take turns with his mate, regularly, like a Blue Lory, but on the other hand, he was with her a great deal. About the 10th July both old birds were off the nest, and looking in I saw a baby, possibly about ten days old, still blind and fairly well covered with grey down. A few days later both old birds were off the nest for a suspiciously long time and inspection unfortunately showed that the young one was dead. The parents did not appear to have injured or neglected it in any way so the cause of death remains rather a mystery. Possibly the food was not entirely suitable. If any further attempts are made at breeding it is to be hoped that they will be more successful. I once almost succeeded in rearing the delicate Racket-tailed Parrot after so many failures that I had lost all hope. A young bird at last lived to leave the nest, only to be killed mysteriously by vermin the same day.

Muschenbroek's Lorikeets have a quaint habit, if one of a pair wishes to get the other side of its partner, of taking a brisk vertical hop over the latter's back and coming down in the desired position.

Judging by the pained expression on my aviary attendant's face and the noises he emits when he handles the little bird without gloves, Muschenbroek's Lorikeet resembles the baboon in that, as the Rev.

Topsell, an early writer on Natural History, tells us of that animal, "His kind bite deeply and eagerly"! For this reason I would not trust Muschenbroek's—or any other Lorikeet—in mixed company, but for all that it is a nice little bird, which, if it lacks the gorgeous colours of some of his relatives, also lacks some of their failings—messiness, troublesomeness to feed, and noise.

PS.—The Lorikeets nested again and have an egg and probably another young one (2nd September).

* * *

THE KESTON FOREIGN BIRD FARM COMES OF AGE

By Edward Boosey

(*Continued from page 153*)

Among other rarities of the Parrakeet family we had here at various times were Layards, Derbyan, and Malabars. The latter bred successfully at Keston, and I have always thought them one of the most elegantly shaped and beautiful of all the *Palaeornis* Parrakeets. We also had a pair of the bright golden yellow and very garrulous and entertaining Queen of Bavaria's Conures, also Caiques and a fine and, what appeared to be obvious pair, of the charming little Senegal Parrot. Curiously enough, although the latter had a roomy aviary to themselves they never during the two years we had them made the slightest attempt to go to nest.

We also had some of the rare black Australian Banksian Cockatoos. These large and imposing birds possess a very individual charm all their own, and males particularly are very much gentler creatures than they look—which is perhaps as well! Unfortunately, they are difficult subjects in confinement, being fatally prone to tuberculosis. Ordinary Cockatoo diet will keep them alive for a time but seems to lack some essential that they need. They appear, strangely enough for a Cockatoo, to be partially insectivorous, though mealworms are usually rejected. The only live insect food they will take—and one which they adore—is the grub which inhabits an oakapple gall. These seem, at any rate in this country, necessary to their well-being, but of course can only be obtained at certain times of the year.

When war broke out we were in the process of constructing an extensive range of Cockatoo aviaries to house a really representative collection, the nucleus we then had consisting of Leadbeaters, Banksians, and Roseates. This project, however, like so many others, had, of course, to be abandoned, and nowadays the only Cockatoos we have left are a pair of Roseates which breed regularly each season,

reducing their nest-box to a heap of sawdust as soon as they consider it has fulfilled its purpose !

Lord Tavistock once lent us for breeding purposes a very beautiful cock white Roseate which we mated to an ordinary grey hen. In this freak specimen all the normally grey areas of the plumage were snow white, which makes a dazzling contrast to the particularly deep squashed-strawberry pink of the breast feathers. This bird, unlike some " sports ", was infinitely lovelier than the normal form of Roseate, and I would have dearly loved to be able to perpetuate the strain. Unfortunately, however, this bird proved to be a confirmed egg-eater, and when returned to Lord Tavistock he was guilty of the same vice at Peasmarsh.

It is unfortunate that these freak specimens—some of them very beautiful—so often prove, for one reason or another, hopeless for breeding purposes.

A particularly gorgeous and I should say quite unique sport in Lord Tavistock's collection is a lutino Amazon (I think a Blue-fronted) in which the red areas are retained, the normally green parts of the plumage being replaced by a lovely clear golden yellow.

He also received from Australia a lutino Broadtail—as far as I can remember a cock Rosella—which was equally beautiful. This bird was to have come to Keston, and I was going to have a shot at perpetuating the lutino strain, and I was more than sorry to hear that it had died of pneumonia in Lord Tavistock's bird hospital shortly after its arrival. However, I did at least see it before it died.

His lutino Amazon was always useless as a breeder.

Just before the war we bred, as has been recorded in the AVICULTURAL MAGAZINE, Blue-fronted Amazons, pure-bred, for the first time in this country. This was a grand thrill, particularly as their first brood consisted of no less than five very lusty young Amazons, all of which were successfully reared. Altogether this pair fully reared eleven young ones here before the hen unfortunately caught pneumonia and died.

It is a curious thing that no matter how tame and friendly they may have been before, it seems that all male Parrots automatically become fiends incarnate towards their former human friends the moment they are mated, and the father of these broods was no exception. He was always on the lookout to remove a chunk from your neck as you bent down to refill the water vessel, or to amputate a finger when you put your hand in the feeding door. Actually, I believe he once satisfied the former ambition with a previous owner, and a fine new male we have recently acquired to mate to a hen of our own breeding made quite a creditable effort to remove one of my fingers a few days ago ! Apparently, Macaws become equally savage when mated, and I think it was Monsieur Decoux who told us he

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BANKSIAN COCKATOO.

[E. Boosey

LEADBEATER'S COCKATOO.

[To face p. 214.

Copyright]

HUNTING CISSA.

[E. Boosey

PAIR OF OCCIPITAL BLUE PIES.

had a pair of Blue and Yellows breeding at liberty which became such a menace that they had to be caught up. They must be a splendid sight flying loose, which I have always wanted to see. Although I was fortunate enough to see many and various members of the Parrot family in Lord Tavistock's collection at liberty at Warblington House (there was a whole flock of young Barrabands !) I never remember any Macaws. Lady Londonderry, writing not long ago from Northern Ireland, told me of a couple she has at liberty at Mount Stewart which are so tame that they fly in each morning through the window to partake of a meal on the kitchen table !

About 1937 we acquired a female Occipital Blue Pie (instantly christened by our staff, the Hospital Blue Pie !) and one of our customers who also had a single specimen very kindly let us have it. At first we had no idea whether they were a pair, but were not long left in doubt as our bird was shortly afterwards seen crouching on the perch while the new acquisition took a series of gigantic leaps, to and fro, across her prone form. This, accompanied on the male's part by a low and surprisingly sweet song, rather like the muted notes of a Thrush, which is somehow the last thing you would expect from a member of the harsh-voiced Pie family, constitute the, I should imagine, rarely observed courtship display.

I know of few lovelier birds, both as to form and colour, than an Occipital Blue Pie in perfect condition, particularly when with its long and slightly incurved tail undulating behind, it flies with all the peculiarly light aery buoyancy of our own native Jay.

It had long been my ambition to breed these birds, and I succeeded in doing so, but it was a long and laborious task, and I certainly don't think I quite realized just what I was letting myself in for !

The pair were in an aviary 25 feet long by 6 feet wide by 7 feet high. At the shelter end of this I fixed up a thicket of nailed-up branches of laurel, and in this they soon constructed a large nest.

We felt we could not remain indefinitely in complete ignorance as to how matters were progressing, and one day, amid much angry chattering from the parents, we managed to catch a glimpse of three eggs in the nest. Two young ones were eventually reared, and as far as I can remember, all three eggs hatched, the third nestling disappearing when very small.

As the natural food of the Pie family consists, when available, of other birds' eggs and nestling, it has always been a marvel to me that they are able to resist the temptation to treat their own eggs and newly-hatched young merely as tasty additions to their diet, and with this thought in mind I realized that a very plentiful and frequent supply of their natural foods would be necessary to keep at bay any cannibalistic tendencies.

When the young ones hatched the hard work—or perhaps hard

labour is the more appropriate word !—really started. The parents, who always seemed desperately hungry, had to be kept perpetually supplied with strips of raw meat, mealworms, small freshly-killed rats, mice, and young Sparrows, and, in addition, they were given any unfertile Budgerigar and Parrakeet eggs, which they regarded as the choicest of morsels. I used to give them just as much food as they would finish up completely every three hours during the whole time the young were in the nest, and I am sure that in the way of feeding, " little and often " is the secret of successfully rearing these carnivorous species. If not given enough they eat their own young ones, and if given too much they lose interest and let them starve. At any rate, it is pleasant to record that our labours were not in vain, for there came the day when the two young ones—dull-coloured short-tailed editions of their magnificent parents—were to be seen perching for the first time on the laurel branches beside the nest, after which they matured rapidly, eventually becoming just as fine specimens as their parents.

Shortly afterwards I was able to satisfy a long-standing ambition to possess a pair of Hunting Cissas, whose great beauty I have always admired. The hen was already an aviary bird and was obtained after the cock which was a newly-imported specimen, and it was extraordinary to watch the green of the latter's plumage changing, as it were, almost overnight into blue. Fortunately, this change of colour in captivity, for which, incidentally, I don't think any satisfactory explanation has ever been suggested, is, in the case of the Cissa, if anything rather an improvement than otherwise upon its original green in the wild state, which certainly cannot be said, for instance, of the pale uninteresting brickish pink which, in confinement, replaces the lovely vivid crimson of a freshly-imported Scarlet Tanager. The same, though to a lesser extent, applies also to Grenadier Weavers which never moult out with quite the same fiery orange-red of their importation plumage. Another unexplained mystery is why the aviary-bred young of Australian Longtailed Grass Finches, though they may be in every other way perfect specimens, never attain anything like the immensely long and tapering central tail feathers of their imported wild-caught parents.

To return to the pair of Hunting Cissas : their history unfortunately is a brief one, for the hen escaped when they were being moved into their breeding aviary, and was never once seen again, and we shortly afterwards parted with the cock.

Of all the insectivorous birds I have ever kept I think my favourite is the infinitely beautiful and charming little Rufous-bellied Niltava, with its wonderful colour combination of blue-black, deep blue, brilliant cobalt blue, and autumn-leaf copper.

These birds are generally reputed to be delicate and prone to

pneumonia, but I can only say that the cock which lived in my planted garden for about nine years roosted out on the bitterest winter nights in an evergreen bush and was always the picture of health, and eventually died of old age. He may have been an unusually tough specimen. At any rate, the only trouble I ever had with him was when I first had him and used to take him into a large flight cage in a heated bird room for the winter. This did not seem to suit him at all, and as I several times nearly lost him, I decided to let him winter out of doors, and after that he was always in perfect health and condition.

I have always attributed his exceptional longevity mainly to the fact that he never had to depend for insect food upon mealworms, which I personally think are very bad for birds unless they are most strictly rationed. He was the most expert flycatcher and during summer and early autumn was able to capture an endless variety of insects for himself.

After I had had him for several years I at last managed to get a mate for him, which was by no means easy as, probably owing to their dull colouring, hens were seldom imported. This hen, though an excellent specimen in perfect feather, behaved in the strangest manner. She arrived in the morning and was put in an aviary by herself, whereupon she retreated to the furthest corner of the flight and sat on the ground. I gave her the whole day to get her bearings, but when by the evening she was still in exactly the same place and obviously hadn't moved, I began to get worried as it seemed she must either be stunned or ill. She had, of course, eaten nothing, so I went into the aviary and put some mealworms on the ground just in front of her. Still no response whatever ; she sat immobile as the Sphinx, so I retreated from the aviary and just as I was standing with the door partly open, wondering what to do next, the graven image suddenly took flight, dashed through the door, and that was the last I ever saw of female Niltava number one !

Not long afterwards by a great stroke of luck I was able to obtain another hen, whose behaviour was entirely normal. She and the cock were given a naturally planted aviary to themselves, and almost immediately went to nest in a wicker Hartz Mountain Canary cage hung in the shelter, and soon there were eggs.

Meanwhile, I had arranged to get a supply of gentles and live ant pupæ as soon as necessary, but did nothing further about it as the hen appeared to have deserted, nearly always, almost from the time the eggs were laid, being in the flight with the cock whenever one passed the aviary. I think, however, she must merely have been a very nervous sitter, and have come off the nest the moment she heard footsteps. Be that as it may, when I had eventually given up in despair and decided to look in the nest, it was to find three tiny corpses of

newly-hatched Rufous-bellied Niltavas, which, had they survived, would, I think, have been the first ever to be bred in this country. Shortly afterwards the hen died suddenly of a fit. Another time I would give the parents their liberty as soon as the young ones hatched, but I am afraid now there is never likely to be another time.

(To be concluded)

* * *

AUSTRALIAN PARROTS IN CAPTIVITY

By Alan Lendon, Adelaide

(Concluded from p. 167)

(51) Rainbow Lorikeet (*Trichoglossus moluccanus*)

Synonyms.—Blue Mountain Lorikeet, Blue-bellied Lorikeet, Swainson's Lorikeet.

Distribution.—Eastern Australia, from Cape York through most of eastern Queensland and eastern New South Wales, down to Victoria. Also found in Tasmania and in South Australia, where it extends as far north as the lower end of the Flinders Range and as far west as southern Eyre's Peninsula.

Description.—A large Lorikeet, the general colour of the upper surface being bright green, with a few red flecks on the back of the neck and a collar of a lighter shade of green. The head and face are a streaky blue, the breast varies from orange to red, the abdomen is blue margined with some red, and the thighs and under tail-coverts are greenish-yellow.

There is very little difference in the colouring of the sexes but the head and beak are larger in the male. Immatures are only slightly duller than the adults but they have a dark beak instead of coral red, as is the case in the adult.

Variations.—I have always thought that the birds derived from southern Queensland are brighter coloured, especially in regard to the red of the breast, than the South Australian birds. The birds found in northern Queensland are also said to be smaller and duller.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 14) is quite good as also is that by Rutledge in Cassell's *Book of Birds* (p. 443). Cayley's plate in *The Emu* (vol. 28, p. 122) is quite adequate whilst that by Lydon in Greene (vol. i, p. 39) is fair as regards colouring but very unshapely.

Field Notes.—This species can almost always be observed in the vicinity of Victor Harbour, South Australia, at all times of the year. I have also seen it in the south-east of South Australia and in southern Queensland. They are noisy birds, both when feeding and in flight.

Aviary Notes.—This species used to be brought down from Queensland in large numbers prior to World War II ; since then, however,

very few have appeared in the local birdshops and it has become comparatively rare in captivity in this state The medal of the A.S.S.A. for the first recorded breeding of this species was awarded in 1929 to Dr. W. Hamilton ; since that date the species has been bred on several occasions in the Adelaide Zoo, as recorded by Minchin in Cayley's *Australian Parrots* (p. 324). It is worthy of note that the incubation period is longer than that of the Australian Parrakeets, namely about twenty-six days, and that the young remain about eight weeks in the nest. It has often been observed that the male of a breeding pair of Lorikeets spends a great deal of time in the nest ; it is, however, doubtful whether he actually participates in the process of incubation.

This species can be kept and even bred on a diet of seed alone, but there seems little doubt that the addition of fruit and bread and milk provides a more normal diet.

I possessed a pair of these birds for a short time in 1935, but parted with them as I found them rather aggressive towards the other inhabitants of a mixed aviary.

(52) Red-collared Lorikeet (*Trichoglossus rubritorquis*)

Synonym.—Orange-naped Lorikeet.

Distribution.—The Kimberley district of north-western Australia and the Northern Territory. It has not been recorded farther east than Groote Eylandt and the McArthur River in the Gulf of Carpentaria and the vicinity of Birdum appears to be its approximate southern limit.

Description.—A large Lorikeet of approximately the same size as the preceding species and with a generally similar colour pattern. The upper parts generally are bright green and the head and face are streaky blue, of a paler shade than in the preceding bird. The breast and collar are orange red, the abdomen is purplish-black, and the thighs and subcaudals are greenish-yellow. There is also a patch of a purple shade below the red collar and some red flecking on the upper mantle.

The sexes can only be distinguished by the larger head and beak of the male and the immatures are only slightly duller than the adults but with brownish instead of orange beaks.

Variations.—No valid subspecies appears to exist.

Coloured Plates.—Roland Green's plate in Mathews (vol. vi, p. 27) is good and that by Goodchild in Seth-Smith (p. 4) is even better. Cayley's plate in *The Emu* (vol. 28, p. 122) is quite adequate.

Field Notes.—I saw a couple of pairs of this species during a few hours spent in Darwin late in 1945. Its habits appear to be practically identical with those of the foregoing bird.

Aviary Notes.—Although previously a rare bird in captivity, a number have been brought down from the Northern Territory since the end of World War II and it is now comparatively common in the state. The medal of the A.S.S.A. was awarded in 1934 to S. Harvey; since then it has been bred in the Adelaide Zoo on several occasions since 1938 and also by R. Rowlands with great consistency. In Mr. Harvey's case the birds had been in his possession for over twelve years and had been fed exclusively on Canary and sunflower seeds. In 1933 they had a clutch of two eggs and hatched the young but did not succeed in rearing them. The following year the first egg was laid on 2nd September and the first young bird hatched on 27th of that month. The first of the two young birds left the nest on 28th November, both being successfully reared. The habits of this species in captivity appear to be identical with those of the Rainbow Lorikeet and, to my mind, there is little doubt that soft food is desirable, though obviously not essential. I have never kept the species myself.

(53) Scaly-breasted Lorikeet (*Trichoglossus chlorolepidotus*)

Synonym.—Gold and Green Lorikeet.

Distribution.—From the vicinity of Cairns, in northern Queensland, down through eastern Queensland into the north-eastern corner of New South Wales. Its southern limit does not appear to be recorded.

Description.—A medium-sized Lorikeet, the general body colour being bright green with a considerable amount of yellow flecking on the breast, abdomen, and upper mantle and with scarlet under wing coverts. There is very little difference between the sexes, the larger beak and flatter head of the male being the most reliable guide. Immatures are almost identical with adults as regards plumage but have a dark brownish beak as opposed to the orange of the adults.

Variations.—There do not appear to be any of note.

Coloured Plates.—The plate by Goodchild in Mathews (vol. vi, p. 33) is excellent, as also is that by Rutledge in Cassell's *Book of Birds* (p. 427).

Field Notes.—This species is by far the commonest Lorikeet in the vicinity of Brisbane. Whilst I was stationed there in 1943 it was observed breeding in the large eucalypts in the camp area. The birds were usually seen in pairs.

Aviary Notes.—Like the Rainbow Lorikeet, this species was imported in numbers from Queensland prior to the recent war, but very few have appeared in the bird shops in recent years; they used to be fed by the dealers on maize meal with a little sugar added.

This species was bred in 1935 by W. K. Penney, of Plympton, South Australia, and this success gained the medal of the A.S.S.A. The two young birds left the nest on 31st May and were reared to become independent of their parents. The species has also been bred

in the Adelaide Zoo on a single occasion, in 1946. I am unaware of any other breeding records for this state.

My personal experience of this bird is confined to a pair acquired in 1935 ; they were only kept for a few weeks on account of their aggressive behaviour towards the other occupants of a mixed collection. It appears to be another of the family that can be kept, in some instances, for long periods on an exclusive seed diet.

(54) Varied Lorikeet (*Psitteuteles versicolor*)

Synonym.—Red-capped Lorikeet.

Distribution.—Tropical northern Australia, which includes the Kimberley district of north-western Australia, the Northern Territory, and north Queensland on the western side of the Gulf of Carpentaria. In the Northern Territory it has been recorded as far south as Elliott.

Description.—A small Lorikeet, with red beak, streaky colouring, and an unusual patch of bare white skin around the eyes. The general colour is green, which is streaked with yellow on the underparts. The forehead and crown are red, the back of the head and sides of the neck are bluish-green, the cheek patches are yellowish-green and the breast is a peculiar reddish-purple colour with an odd streaked appearance. The male has the red crown of a deeper shade than the female and the purplish colouring on the breast is brighter. Immatures differ considerably from the adults in that all the colouring is duller and the markings less pronounced ; also, the red cap is replaced by green with a little red flecking and a small frontal band of the same colour.

Variations.—There do not appear to be any of note.

Coloured Plates.—Goodchild's plate of a pair in Mathews (vol. vi, p. 38) is very good and the same artist's plate of an adult and an immature in Avicultural Magazine (July, 1903, p. 287) is equally good, but the reproduction of the same drawing in Seth-Smith (p. 255) is not as good as regards the colouration.

Field Notes.—I have not seen this species in its natural state but it is said not to differ in habits from those of the other small Lorikeets.

Aviary Notes.—My first meeting with this species in captivity was in the case of a pair kept prior to the last war by a lady whose husband had procured them from the Northern Territory. This pair of birds lived for several years in perfect condition on a diet of sweetened oatmeal and grapes ; unfortunately, they were never given adequate nesting accommodation or they might well have bred, as I observed them perpetrating their amusing display on several occasions. Until recently, the breeding record at the Keston Foreign Bird Farm in 1936 reported in Avicultural Magazine (1936, pp. 192–3) appeared to be the only instance of the species having bred in captivity. Thanks

to the courtesy of Mr. L. C. Webber, of Sydney, I now have information regarding a recent Australian success. The owner of the birds is Mr. C. J. Lambert, of Horsley, an outer suburb of Sydney, and they had been in his possession for almost two years before going to nest in a small box 8 inches by 6 inches by 5 inches, with a short spout. Two white eggs were laid on 16th and 18th September, 1949, and were brooded by the hen only. The young hatched after an incubation period of twenty-two days and the first left the nest on 16th November ; both were independent three weeks after leaving the nest. Both parents fed the young, the food provided being " Weetbix ", milk, sugar, honey, apple, and thistle. It was noticed that one young bird had a black beak and the other a pinkish one ; these proved to be a cock and hen respectively.

This species has never done very well at the Adelaide Zoo, although eggs were laid in 1948. I have never kept the species myself but other local aviculturists have had examples in recent years without so far persuading them to go to nest.

(55) Musk Lorikeet (*Glossopsitta concinna*)

Synonym.—Erroneously called King Parrot.

Distribution.—From southern Queensland, through eastern New South Wales, and most of Victoria to southern South Australia, as far west as Eyre's Peninsula. Also found in Tasmania.

Description.—A medium-sized Lorikeet, the general body colouring being a bright green. The forehead and an elongated patch behind the eye are red, the crown of the head is blue, the mantle is a brownish-olive, and there is a yellow patch on the side of the breast. In the male the blue colouring on the crown is more pronounced, otherwise the sexes are very similar. Immatures are duller in their markings, especially the red areas, and the beak is dark all over, as opposed to the orange and black of the adult.

Variations.—None of any merit has been described.

Coloured Plates.—Goodchild's plate in Mathews (vol. vi, p. 46, lower fig.) is very good but that by the same artist in Seth-Smith (p. 18) is not quite up to his usual high standard.

Field Notes.—A very common bird in many parts of South Australia. Although usually seen feeding on flowering eucalypts, I have, on one occasion, seen the species feeding in vast numbers in ripening wheat crops. It is also said to be very destructive in orchards on occasions.

Aviary Notes.—Although such a common bird in the wild state, it is never very freely kept in captivity and it is undoubtedly one of the Lorikeets which will not often survive long on a diet of seed alone.

The medal of the A.S.S.A. for the first breeding of this species was awarded to Dr. W. Hamilton in 1930. In the Adelaide Zoo it was

first bred in 1941 and in several subsequent seasons in a hollow in an old, rotted tree stump.

(56) PURPLE-CROWNED LORIKEET (*Glossopsitta porphyrocephala*)

Synonym.—Porphyry-crowned Lorikeet.

Distribution.—Throughout most of Victoria and southern South Australia and westward to southern Western Australia, where it extends as far north as Moora. It appears to be very doubtful whether it occurs in New South Wales.

Description.—A small Lorikeet, mainly green on the upper parts and pale blue on the under surface. There is a broad frontal band which varies in shade from orange to red and the ear coverts are orange-yellow in colour. There is a large patch of dark purple on the crown, the under wing coverts are red and the mantle is olive. I have never been able to satisfy myself as to sexual differentiation, but Dr. W. Hamilton assures me that the ear coverts are more orange than yellow in the male. However, in each of two undoubted pairs that I have recently examined, the male has a much lighter coloured eye. Whether this is a constant character or not, remains to be proved. Immatures are duller generally and completely lack the purple cap.

Variations.—None of consequence described.

Coloured Plates.—The only coloured plate that I am aware of is an excellent one by Goodchild in Mathews (vol. vi, p. 46, upper fig.), but there is a very good black and white drawing by the same artist in AVICULTURAL MAGAZINE (January, 1913, p. 91).

Field Notes.—The commonest Lorikeet in most parts of South Australia and, strangely enough, the only member of the family found in the southern parts of Western Australia. It is easily recognized in the field by its small size, call note, and the red colouring under the wings.

Aviary Notes.—Although such a common wild bird, this species has seldom been kept successfully in captivity for any length of time, and soft food is undoubtedly essential for its well-being.

The A.S.S.A. medal for the breeding of this species has not been claimed as yet, but it was bred in 1936 by Mr. J. Gregg, of Croydon. I well remember taking an overseas dealer (L. Behrend) to see these birds, and he subsequently purchased the parents and the two young birds.

Dr. W. Hamilton had young of this species in the nest when he left for England in 1930, and he hand-reared them successfully aboard ship. Probably one of the several that he took to England on that occasion was still on exhibition in the Parrot House of the London Zoo when I visited it in 1940.

A pair of these birds laid two clutches of two eggs in 1949, in the

collection of Mr. R. W. McKechnie, but the eggs were unfortunately clear on each occasion.

(57) Little Lorikeet (*Glossopsitta pusilla*)

Synonyms.—Tiny Lorikeet, Slit.

Distribution.—Eastern Australia, from Cairns in north Queensland, down through eastern Queensland and eastern New South Wales into Victoria and Tasmania. Rare in southern South Australia.

Description.—A small Lorikeet of a uniform bright green colour, with the exception of the mantle, which is olive, and the forehead and face, which are scarlet. The sexes do not differ markedly, but the olive mantle is possibly brighter in the male. Immatures are duller, especially as regards the red areas.

Variations.—There do not appear to be any.

Coloured Plates.—As with the last species, the only coloured plate in existence, apart from that in Gould, is the excellent one by Goodchild in Mathews (vol. vi, p. 46, middle fig.).

Field Notes.—My first meeting with this species in the field was near Seymour, Victoria, in 1942, when my attention was drawn to it by the difference between its call note and that of the Purple-crowned species, which was also plentiful in the same district. The absence of red under the wings is also a useful field identification. I subsequently saw what I took to be this species in the vicinity of Brisbane on several occasions, but could never be positive of the identification.

Aviary Notes.—This bird is very uncommon in captivity, even in the eastern states, and I know of only four examples having been kept in this state. In Mr. R. W. McKechnie's collection, shortly after World War II, a clutch of two eggs was laid, but the sitting hen was unfortunately killed by an unmated bird. Mr. N. K. Bush, of Peakhurst, a suburb of Sydney, has kindly supplied me with the following information regarding his successful breeding of this species. The birds were housed in a half-covered, planted aviary, 15 feet by 7 feet by 6 feet dimensions. The male bird had been hand-reared, and the female had been caught, as a young bird, two years previously. They were the only Parrots in the aviary, but there were also several pairs of mixed Finches housed therein. The nest was under cover, five feet from the ground, in a small box measuring 6 inches by 6 inches by 10 inches, with a small hollow log fixed on the front as an entrance. The box was filled to a depth of two inches with rotted wood, and the pair spent much time in the box before the hen eventually laid a clutch of four white eggs late in September, 1948, the exact date being unknown. Two young birds hatched on 19th October, all the incubation having been performed by the female, who was fed by the male ; both birds were very spiteful at this time. Both young birds

left the nest about the middle of November, and were independent in two weeks. The food provided was "Weetbix", to which was added two teaspoonfuls of "Gold Medal" condensed milk for each one and a half biscuits; boiled water was then added to form a thin porridge. The hen apparently did all the feeding of the young birds, and it was subsequently noticed that the birds were eating a little canary seed. I understand that Mr. Bush was again successful in breeding these birds in 1949.

(58) Blue-Browed Lorilet (*Opopsitta coxeni*)

Synonyms.—Red-faced Lorilet, Coxen's Fig Parrot.

Distribution.—North-eastern New South Wales and southern Queensland.

Description.—A short-tailed green Parrot, about the size of a Musk Lorikeet, with a large head and massive black beak, and with yellow patches on the sides of the breast and red tips to the innermost wing feathers, the latter two features being found in all species, apparently. In the male, the ear coverts are red, and there is some red speckling on the face, whilst the forehead and lower cheeks are blue. The female is said to have less red on the face and ear coverts, and the immatures are, as yet, undescribed.

Variations.—None.

Coloured Plates.—There is an excellent plate of an alleged pair by Goodchild in Mathews (vol. vi, p. 67, lower figs.) and an adequate one of a male by Cayley in *The Emu* (vol. 29, pl. 14).

Field Notes.—I do not think I have seen this species, although I sometimes wonder whether the birds I identified as Little Lorikeets in the Brisbane area might have been Fig Parrots. Very little has been recorded regarding this bird.

Aviary Notes.—There do not appear to be any records of this species ever having been kept in captivity.

(59) Red-browed Lorilet (*Opopsitta leadbeateri*)

Synonyms.—Blue-faced Lorilet, Leadbeater's, McCoy's or Macleay's Fig Parrot.

Distribution.—North Queensland in the Cairns and Cardwell districts.

Description.—A small green Parrot, about the size of a Varied Lorikeet, with the typical short tail, bulky head, and large black beak. The other typical characteristics, the yellow patch on the side of the breast and red tip to the innermost wing feathers, are also evident. The adult male has a small red patch on the forehead and a large patch of the same colour on the side of the face, whilst around the eye and below the red cheek patch are areas of blue. The adult female

has the large red facial area replaced by blue. Immatures are said to be paler and duller than the adult female.

Variations.—None.

Coloured Plates.—There is a splendid plate of a pair by Goodchild in Mathews (vol. vi, p. 67, upper figs.) and a reasonably good one of a male by Cayley in *The Emu* (vol. 29, pl. 14).

Field Notes.—I have not seen this bird, but it seems to have been observed more frequently than the preceding species. It apparently keeps to the tops of fruit trees such as figs, and utters a feeble call only when in flight.

Aviary Notes.—Austin and Bourke in *The Emu*, vol. 46, p. 286, state that a bird of this species was kept in captivity in Cairns, Queensland. There does not appear to be any other record.

(60) Marshall's Lorilet (*Opopsitta marshalli*)

Distribution.—Cape York Peninsula, North Queensland, and possibly extending to the Aru Islands and Southern New Guinea.

Description.—A typical Fig Parrot, the distinctive marking being, in the male, a red forehead with a narrow yellow band behind it and red cheek patches with some blue below them. In the female the forehead is blue and the cheeks are of a buff shade with blue below them. The immature is like the female, but exhibits some red on the face.

Coloured Plate.—That by Medland in *The Emu* (vol. 46, pl. 1) portrays the male, female, and immature birds collected by Marshall.

Field Notes.—The reader is referred to Marshall's description of his discovery of the bird in *The Emu* (vol. 47, p. 50). Mayr points out (pp. 54–5) that the bird described as *aruensis* is probably identical. It is of interest to recall that McLennan shot what he believed to be a Fig Parrot on Cape York Peninsula in 1914, but the specimen was not recovered ; it seems likely that it was this species.

Aviary Notes.—Obviously this bird has never been kept in captivity, although *aruensis* may have been. However, I recently possessed two females of the closely related species *diophthalma*, which is found in New Guinea. My birds survived for over eight months on a diet of sunflower seed and apple ; I could not persuade them to eat any other seed, and I did not try them with any soft food. They were not very attractive aviary birds, being extremely dull and timid ; however, Boosey, who recently acquired a male, has informed me that his bird is delightfully tame and has learnt to mimic other Parrots.

* * *

BRITISH AVICULTURISTS' CLUB

The twenty-fourth meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, South Kensington, S.W. 7, on Wednesday, 13th September, 1950, at 6 p.m., followed by a dinner.

Chairman : Miss P. Barclay-Smith.

Members of the Club : Major J. E. Adlard, Dr. M. Amsler, Miss K. Bonner, W. Brain, B. Chadwick, G. T. Clark, Mrs. G. T. Clark, T. Crewes, Dr. J. N. Day, B. H. Dulanty, A. Ezra (Patron), A. Fisher, J. F. M. Floyd, Mrs. W. O. Gilbert, H. J. Harman, Dr. W. C. Osman Hill, Dr. E. Hindle, E. Holt, Major E. F. Housden, G. T. Iles, H. J. Indge, Miss E. M. Knobel (Club Hostess), Miss M. H. Knobel-Harman, P. H. Maxwell, A. F. Moody, G. S. Mottershead, H. Murray, K. A. Norris, A. A. Prestwich (Hon. Secretary), R. C. J. Sawyer, D. Seth-Smith, Captain H. S. Stokes, E. N. T. Vane, C. S. Webb, R. C. Witting, Mrs. M. K. Woodford.

Guest of Honour : Sir Norman Kinnear.

Guests of the Club : L. M. Baker, Professor G. Pandazis.

Guests : Miss A. J. Avery, J. Bailey, I. N. A. Bennett, W. G. Birch, G. S. Cansdale, Mrs. G. S. Cansdale, Viscount Chaplin, Miss G. C. Day, Mrs. J. N. Day, H. Engert, J. O. Gilbert, Mrs. W. C. Osman Hill, Miss E. Kinnear, Miss S. Kinnear, J. A. Norris, Mrs. J. A. Norris, W. S. Pitt, Mrs. W. S. Pitt, Mrs. D. Seth-Smith, C. Southworth, T. N. T. Vane, Mrs. R. C. Witting.

Members of the Club, 37 ; guests, 25 ; total, 62.

The Chairman said that it had been the custom of the Club to entertain guests of honour from various countries on the Continent, and also from the United States, but to-night for the first time the guest of honour was a Scot. Sir Norman Kinnear had taken great interest in the Club since its inception, and the Hon. Secretary had had the happy idea of combining the appreciation of the Club for his support with their congratulations on the honour recently conferred upon him by His Majesty the King. The situation was a unique one, as till this moment the guest of honour was blissfully unconscious that he was occupying that position. Sir Norman was a man who liked to do a great deal of work, but disliked limelight of any sort ; it was therefore realized that if he were invited to attend a B.A.C. dinner as guest of honour he would find any number of excellent reasons and excuses why he was not able to do so. Mr. Prestwich had therefore had the brilliant idea of omitting to state the reason for the invitation, and for this, the Chairman added, she felt sure that members would agree, their Hon. Secretary could now claim to equal Mr. Webb in the art of trapping rare, shy, beautiful—and difficult—species. The Club was also glad to welcome Sir Norman's two daughters, Miss Sheila and Miss Elizabeth Kinnear. Another distinguished guest the Club

was honoured to have present was Professor Pandazis from Greece. Professor Pandazis was Professor of Zoology in the University of Athens, and Chairman of the Greek Section of the International Committee for Bird Preservation ; as this was his first visit to England, the Club was glad to be able to entertain him, and he was also their first visitor from Greece.

The Chairman said she was particularly pleased that Mr. L. M. Baker, of the Home Office, was also a guest to-night. Mr. Baker was the only man in the kingdom who understood the many and complicated bird protection laws, and in his capacity as Secretary of the Home Office Wild Birds Advisory Committee which was drafting the new bird protection law, the Avicultural Society would have good cause to be grateful to him. If the better preservation of birds was achieved without any harm coming to aviculture, this would no doubt be largely owing to the diplomatic but firm handling of the Committee by Mr. Baker.

The Chairman then gave the toast of the guest of honour, Sir Norman Kinnear.

Sir Norman Kinnear replied, saying how much he appreciated the honour paid to him by the Club, and added that if he had thought a little more deeply he would not have walked so easily into the trap prepared for him.

Professor Pandazis then thanked the Club for their hospitality, and expressed his great pleasure at being their guest.

A colour sound film of the Cedar Waxwing and American Robin, lent by the National Film Board of Canada, was then shown. The film showed the life history of these birds, from the eggs to the flight of the young birds from the nest, all in excellent quality photography.

Mr. Iles then showed his colour film of the Avicultural Society's visit to Clères and Paris in May. Most excellent shots of Clères and its birds, of the Paris Zoo, and of the various personalities, including in addition to the British members, Monsieur Delacour, Prince Paul Murat, Mrs. Benchley, Mademoiselle T. Elsen, and Monsieur Jean Pierre Derscheid, formed a most attractive, interesting, and entertaining film. In introducing his film Mr. Iles apologized for the quality, explaining that he was an amateur. In thanking him for showing the film the Chairman asked the members if they did not agree that the apology was superfluous, as the high quality of the film equalled that of any professional photographer. The prolonged and loud applause showed no doubt of the views of the audience.

The next meeting will be held on **8th November, 1950,** at 6 p.m.

ARTHUR A. PRESTWICH,

Hon. Secretary.

PERSONALIA

C. R. Podmore has recently fully reared two Pekin Robins. This is his fourth success with this species during the past ten years. The events have taken place in his heavily planted 50 feet by 20 feet aviary.

Don Martin, Auburn, according to the *Seattle Sunday Times*, has started a new industry—breeding Black Swans for the restaurant trade. The report says : " These game birds are valued in Australia for their tasty flesh. Deceived by the northern seasons, they lay twice a year. By ' stealing ' a clutch for the brooder, Martin induces them to lay a third lot. His goal is 200 pair producing for restaurants catering to gourmets."

David West, Montebello, California, sends news of his Parrakeets : " The new U.N. war is to blame for the fact that I have been mobilized, and so have to leave home.

" I have had an excellent breeding season. Reared twenty-three young Scarlet-chested from three pairs. Also raised young Turquoisines (2), Bourkes (7), Princess Alexandras (4), Elegants (2), Blue Rosellas (10), Stanleys (2).

" The biggest disappointment were the Pileated which hatched three young and later deserted them.

" A friend of mine hatched Lineolated Parrakeets, but they later died when the parents were disturbed."

Captain A. Clarence writes : " My Red-faced Lovebird is herself sitting on a second clutch of, I believe, three eggs. The previous eggs, put under a Budgerigar, hatched three out of five. Two chicks were strong, but feathered very slowly in comparison with one baby Budgerigar, hatched from the only egg left (as I was so doubtful of the Lovebird eggs) that the Budgerigar was fully feathered and always blocking the entrance hole. The foster-parents suddenly stopped feeding them, and so they died. A pair of Touracous have a nest near by with eggs, and I believe the hen started sitting to-day, as she has been on the nest all day."

The appeal for donations to the Coloured Plate Fund has had some response.

The Council appreciates the action of a number of members who have sent donations.

The Society is still in need of additional finance to enable it to maintain the Magazine at its present high standard without reducing the size.

A. A. P.

ZOO NOTES

By C. S. Webb

The period under review (7th July to 7th September) has seen a lot more interesting arrivals. Inevitably these will diminish from now onwards, not only on account of the approaching winter but because the Zoo has just about reached saturation point.

In the last five years there has been a great recovery from the effects of the war years, so that now the Zoo can boast of a better collection in many departments than ever before.

The following recent additions are of interest :—

A collection of waders was received in exchange from the Copenhagen Zoo, comprising Greenshanks, Redshanks, Common Sandpipers, 1 Spotted Redshank, 1 Green Sandpiper, Ruffs and Reeves, and 3 Iceland Gulls. Surprisingly enough the Zoo had never before exhibited a Greenshank. The Iceland Gulls bring our number of species of the *Laridæ* up to 8.

With the above arrived two Sun-bitterns (*Eurypyga helias*)—the first since the war. A few days later we acquired two more from Mr. K. Smith, who has recently returned from a collecting trip in British Guiana. These birds are always interesting to watch on account of their swaying movements and their displays with outspread wings. Few birds get more tame. One I possessed many years ago in British Guiana I used to put on a lawn early every morning and there it would roam around all day, making its peculiar soft cries and stalking insects—principally grasshoppers. In the evening I used to pick the bird up and put it in a shed. It was full-winged but never attempted to fly or wander away. Sun-bitterns are not related to the true Bitterns but belong to a group of aberrant waders—the Kagus, Courlans, and Mesites—which have some affinities with the Cranes.

Mr. Smith also brought us 2 Green-backed Herons (*Butorides striatus*). This tiny heron is of interest if only on account of its extraordinary distribution. It is scattered widely in South America, Africa, Australia, India, Ceylon, Malay, China, Japan, and many tropical islands, especially in the Far East. I have found it very plentiful in the reed-beds of Lake Alaotra, Madagascar. There are many geographical races, but all are now recognized as belonging to the same species. Other birds from Mr. Smith were 1 Tricolor Heron (*Hydranassa tricolor*), 1 Large-billed Hawk (*Asturina magnirostris*), and 1 White-throated Falcon (*Falco albigularis*). The latter is beautifully marked with black and chestnut and is not much larger than a Mistle Thrush.

From Ceylon Zoo we received by air 4 White-breasted Kingfishers (*Halcyon smyrnensis*) and 4 Indian Darters (*Anhinga melanogaster*). The latter have a curious way of submerging and often only their long snake-like necks can be seen moving along above the surface while

their bodies are out of sight. They can move under water faster than a Cormorant and catch their fish by spearing them.

Several interesting additions have been made to our birds of prey aviaries, including 1 Griffon Vulture, 5 White-backed Vultures, 1 Tawny Eagle, 1 Martial Hawk-eagle, and one Booted Eagle. A couple of Comb-ducks or Knob-billed Ducks (*Sarkidiornis melanotos*) arrived from West Africa and are the first for very many years. We had the good fortune to aquire the two species of Red-breasted Marshbirds (*Leistes*) within a few days of each other. The Guiana or Cayenne Red-breasted Marshbird (*L. militaris*) we have often had in the past, but the other—the Argentine Red-breasted Marshbird (*L. superciliaris*)—is new to our collection. The latter can be easily identified by its prominent eye-stripe.

From East Africa we recently received six examples of the Vulturine Guineafowl (*Acryllium vulturinum*). Although these birds are bare-headed they are perhaps the most striking of the guineafowl—having plumage of a blue which is quite startling in its intensity. The breast feathers are long and pointed and are black with white pencilling in the centre and edged with blue.

Vulturine Guineafowl are inhabitants of the driest parts of East Africa and have suffered much of recent years through the locust campaigns. The locusts are blotted out with arsenical preparations and then the guineafowl devour the poisoned insects with fatal results to themselves.

A collection of eighty-six small birds was sent in exchange from the Pretoria Zoo. They all arrived alive. Some old favourites were among them, such as Violet-eared, Black-cheeked, Blue-breasted, and St. Helena Waxbills ; Alario, Red-headed, Scaly-fronted, and Melba Finches ; and Queen Whydahs.

Last but not least, we have now got a pair of Toco Toucans, which most people consider to be the most spectacular of the *Ramphastidæ*. The most striking feature in this species is the very large orange-coloured bill tipped with black.

* * *

CORRESPONDENCE

TWITE × CAPE CANARY HYBRID

I have a collection of some thirty pair of foreign Finches, etc., including two pair of British. Each summer I manage to breed a few foreigners, as my aviary is well planted out. However, this season, not having much luck with the foreign Finches, I managed to breed a rather unusual hybrid, a Cape Canary (hen) × Twite (cock), and I have reared three birds from this mating ; they are a month old. I believe this hybrid has not been attempted or bred before. Hoping this may be of some interest.

T. Eleen.

29 Desborough Crescent,
West Derby, Liverpool 12.

AVICULTURE AND ORNITHOLOGY

With reference to the current controversy Ornithology *v.* Aviculture in these columns, may I be allowed to express my views.

Since an early age I have been a keen lover of birds both in the field and in captivity and have kept a large number of both English and foreign species, including Pheasants, which are my particular interest. Since the war unfortunately I have been unable to keep anything due to lack of suitable accommodation, but as my recent efforts with the Pheasant Registry show, I am still a very enthusiastic aviculturist and hope I may take up the hobby again in the near future. But, as I have stated above, I am also a lover of birds in the wild, and so my odd moments are taken up (and were before the war) by expeditions into the surrounding countryside where I can study these creatures in their natural state. Until a few months ago I was secretary to our local Ornithologists' Club, but was forced to give it up due to pressure of work in other spheres, which was a great disappointment. Some of your correspondents may now say " Ah ! but this person must be of private means and have all the time in the world to devote to these two pursuits ". Worse luck, I am not, and have to put in the usual 5½ day working week and also do my share of the chores at home (yes, I am a family man !), but I can always find time to stay a moment to study a bird in its haunts and gain a fragment of knowledge. All this previous experience has helped me as follows :—

(*a*) *The keeping of British birds in captivity* has enabled me as an ornithologist to identify most species found in this locality (over 120 have been recorded in recent years) by their song alone and many by their flight or similar characteristics. Should I ever travel abroad, in the Services for instance, the same would apply, plus, of course, a knowledge of the plumage, etc., seen at close quarters, to assist me.

(*b*) *The study of birds in the field* has provided me with those details of feeding, courtships, nesting sites, and a great wealth of other information which are of help to me as an aviculturist in tending my charges. This again could apply as in (*a*) should I go abroad.

I therefore have no hesitation in supporting the Editor in stating that aviculture and ornithology can and should go hand in hand. A true lover of birds, no matter what his special fancy, should find interest in all birds. I do.

Further, I would ask this, where does the aviculturist first obtain details of keeping and breeding his birds ? From books, or from an experienced fancier who, in turn, obtained his information from books. And the authors of these books, whence came their information ? Either they acquired it in the field or from scraps of news in various books and journals, so if it were possible to trace the history of data concerning any one family I think it would be found that the ornithologist first gave details of, for instance, the natural foods (perhaps the major concern of the aviculturist when making up a substitute), also nesting sites, etc., all of prime importance to the serious breeder. Surely then the aviculturist can return the compliment by giving particulars, still unrecorded in the various monographs, of the life of his birds in captivity. M. Delacour has stressed this point in regard to Pheasants.

With regard to " splinter " societies, they come and they go ! People these days cannot afford subscriptions to various specialist societies and so one or the other must lose membership. It is a case of " United we stand . . . " and the Avicultural Society caters for all, so it is up to the members themselves to provide the material wanted and not rely on the same familiar names which yearly do their best to keep the magazine full of interest. I might mention that certain weekly periodicals are always giving details of sizes of aviaries and inmates in an aviary, to help the amateur ; whilst we do not want to be a scientific society in the true sense of the word let us keep the slightly higher plane that has been such a good feature in the past. I should perhaps state that this is not meant to be snobbery but a plea to give a higher grade of information and experiences than is found in such periodicals.

GEORGE A. J. WEAVER.

77 OFFMORE ROAD,
KIDDERMINSTER,
WORCS.

CANDIDATES FOR ELECTION

H. J. DARMAN, F.Z.S., F.R.H.S., 44 Fraser Road, Walthamstow, London, E. 17. Proposed by A. A. Prestwich.

R. E. EVANS, M.B., Ch.B., 27 Hillhouse Street, Balornock, Glasgow, N. Proposed by A. A. Prestwich.

H. J. van HEYST, "Amstelwyk," Wyk by Duurstede, Holland. Proposed by A. F. C. A. van Heyst.

Mrs. J. A. SWAN, Hazel Mere, Rectory Lane, Sidcup, Kent. Proposed by A. A. Prestwich.

NEW MEMBERS

The fifteen Candidates for Election, proposed in the July-August number of the *Avicultural Magazine*, were duly elected members of the Society.

READMITTED

F. W. AUBURN, F.Z.S., Willow Creek, Arkley Lane, Arkley, Herts.

The Right Hon. The VISCOUNT CHAPLIN, 23 Chelsea Square, London, S.W. 3.

N. NICHOLSON, Edenvale, 16 Weardale Place, Stockton-on-Tees.

CHANGES OF ADDRESS

Major J. E. ADLARD, to 8 Princes Street, Westminster, S.W. 1.

Miss E. F. CHAWNER, to Leckford Abbas, Stockbridge, Hants.

JOHN W. LIVERMORE, to 135 East 54th Street, Apt. 11B, N.Y. City, U.S.A.

J. H. NOORDZIJ, to Burg. Visserpark 13, Alphen a/d Rijn, Holland.

E. N. T. VANE, to Fairacre, Chiltern Road, Ballinger, Gt. Missenden, Bucks.

DONATION

(COLOURED PLATE FUND)

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WATERFOWL RINGS

Members are reminded that the Society's special blue rings are always available. *All* Waterfowl should carry them.

Size 2–3 for Teal	. . . . .	Price 2*s*. 3*d*. per dozen, post free	
„ 3 „ Wigeon	. . . . .	„ 2*s*. 3*d*.	„ „ „
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„ 5 „ Geese	. . . . .	„ 3*s*. 3*d*.	„ „ „

Requests for rings should be addressed to the Hon. Secretary, Avicultural Society, c/o Zoological Society of London, Regent's Park, London, N.W. 8, from whom all particulars can be obtained.

COLOURED PLATES

Surplus copies of coloured plates that have appeared in the *Avicultural Magazine*, suitable for framing. About eighty different plates are available. Price 1*s*. each, postage on any number 3*d*. extra. Apply to the Hon. Secretary.

***Practical Hints on the Keeping and Breeding of Gouldian Finches*, by P. W. Teague, 1*s*. 1*d*.—To be obtained from Stephen Austin & Sons, Ltd., Fore Street, Herts.**

MEMBERS' ADVERTISEMENTS

The charge for Members' advertisements is ONE PENNY PER WORD. *Payment must accompany the advertisement, which must be sent on or before the 15th of the month, to* A. A. PERETWICH, CHELMSFORD ROAD, SOUTHGATE, N. 14. *All members of the Society are entitled to use this column, but the Council reserves the right to refuse any advertisements they consider unsuitable.*

WANTED

L'Oiseau, 1934–1941, bound or unbound.—Offers to HON. SECRETARY.

Ornamental Pheasants in pairs, must be rare. Rare Geese in pairs.—A. FRED STURGIS, 740 Sansom Street, Philadelphia 6, Pa., U.S.A.

Unrelated pair Silver Zebra Finches, hen Diamond Sparrow, cock Cuban Finch. A. BUTLER, 169 Royds Street, Rochdale, Lancs.

FOR SALE

Avicultural Magazine, bound volumes, 1896, 1898, and 1899, £1 10s. each.—Apply, HON. SECRETARY.

Outstanding 1950 Alexandrines, £10 each; Pairs Redrumps, £6; Yellow Redrumps, £10. Wanted young hen Stanley, Mealy; Ringnecks. Consider exchanges.—Captain VEITCH, Redridge, Garforth, Nr. Leeds.

Sale owing to removal, one pair 1947 Golden Pheasants, £3. One pair 1948 Redrumps, £5. 1950 young from above pair, two yellow hens £3 each, three green cocks £2 each. One yellow cock, 1949, unrelated to above, £5. One incubator, 18-egg size, oil, 30s. One new 12-chick brooder, £1; also one 25-chick size, 30s., both electric. Ideal for Pheasant breeders.—Mrs. J. DALZIEL BIRRELL, Green Hill House, Shoreham Road, Otford, Kent.

AVICULTURAL SOCIETY OF AMERICA

The objects of the Society are to encourage the study, care, and breeding of foreign aviary birds, particularly of those species which may be threatened with extinction; and the dissemination to the members of the knowledge so acquired, through the publication of a magazine devoted solely to the interests of lovers and breeders of foreign cage and aviary birds.

The annual dues of the Society, which include subscription to the magazine, are $3.50 per year (foreign dues $3.75 or £1 7s.), payable in advance. There is no entrance fee, and as the Society is not conducted for profit, all officers and contributors to the magazine donate their services.

The Society year begins 1st January, but new members may join at any time.

Correspondence regarding membership should be directed to the Secretary-Treasurer, Mrs. Milton Erlanger, 117 E. 64th Street, New York City, N.Y., U.S.A.

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